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NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	DEC 18	CA/CAPplus pre-1967 chemical substance index entries enhanced with preparation role
NEWS	4	DEC 18	CA/CAPplus patent kind codes updated
NEWS	5	DEC 18	MARPAT to CA/CAPplus accession number crossover limit increased to 50,000
NEWS	6	DEC 18	MEDLINE updated in preparation for 2007 reload
NEWS	7	DEC 27	CA/CAPplus enhanced with more pre-1907 records
NEWS	8	JAN 08	CHEMLIST enhanced with New Zealand Inventory of Chemicals
NEWS	9	JAN 16	CA/CAPplus Company Name Thesaurus enhanced and reloaded
NEWS	10	JAN 16	IPC version 2007.01 thesaurus available on STN
NEWS	11	JAN 16	WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data
NEWS	12	JAN 22	CA/CAPplus updated with revised CAS roles
NEWS	13	JAN 22	CA/CAPplus enhanced with patent applications from India
NEWS	14	JAN 29	PHAR reloaded with new search and display fields
NEWS	15	JAN 29	CAS Registry Number crossover limit increased to 300,000 in multiple databases
NEWS	16	FEB 15	PATDPASPC enhanced with Drug Approval numbers
NEWS	17	FEB 15	RUSSIAPAT enhanced with pre-1994 records
NEWS	18	FEB 23	KOREAPAT enhanced with IPC 8 features and functionality
NEWS	19	FEB 26	MEDLINE reloaded with enhancements
NEWS	20	FEB 26	EMBASE enhanced with Clinical Trial Number field
NEWS	21	FEB 26	TOXCENTER enhanced with reloaded MEDLINE
NEWS	22	FEB 26	IFICDB/IFIPAT/IFIUDB reloaded with enhancements
NEWS	23	FEB 26	CAS Registry Number crossover limit increased from 10,000 to 300,000 in multiple databases
NEWS	24	MAR 15	WPIDS/WPIX enhanced with new FRAGHITSTR display format
NEWS	25	MAR 16	CASREACT coverage extended
NEWS	26	MAR 20	MARPAT now updated daily
NEWS	27	MAR 22	LWPI reloaded
NEWS	28	MAR 30	RDISCLOSURE reloaded with enhancements
NEWS	29	MAR 30	INPADOCDB will replace INPADOC on STN

NEWS EXPRESS NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8
NEWS X25	X.25 communication option no longer available

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 10:39:54 ON 01 APR 2007

=> FILE REG

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.42

0.42

FILE 'REGISTRY' ENTERED AT 10:40:51 ON 01 APR 2007

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STRUCTURE FILE UPDATES: 30 MAR 2007 HIGHEST RN 928818-37-5

DICTIONARY FILE UPDATES: 30 MAR 2007 HIGHEST RN 928818-37-5

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<http://www.cas.org/ONLINE/UG/regprops.html>

=>

Uploading C:\Program Files\Stnexp\Queries\JJ-0105.str

L1 STRUCTURE UPLOADED

=> D L1

L1 HAS NO ANSWERS

L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

=> S L1 FULL

FULL SEARCH INITIATED 10:41:25 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 710 TO ITERATE

100.0% PROCESSED 710 ITERATIONS

465 ANSWERS

SEARCH TIME: 00.00.01

L2 465 SEA SSS FUL L1

=> FILE CAPLUS
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
172.10	172.52

FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 10:41:43 ON 01 APR 2007
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FILE COVERS 1907 - 1 Apr 2007 VOL 146 ISS 15
FILE LAST UPDATED: 30 Mar 2007 (20070330/ED)

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<http://www.cas.org/infopolicy.html>

=> S L2
L3 212 L2

=> D L3 IBIB ABS HITSTR 1-212

L3 ANSWER 1 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:131519 CAPLUS

DOCUMENT NUMBER: 146:228705

TITLE: First catalytic reductive coupling of 1,3-diynes to carbonyl partners: A new regio- and enantioselective C-C bond forming hydrogenation. [Erratum to document cited in CA139:291814]

AUTHOR(S): Huddleston, Ryan R.; Jang, Hye-Young; Krische, Michael J.

CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of Texas at Austin, Austin, TX, 78712, USA

SOURCE: Journal of the American Chemical Society (2007), 129(7), 2194

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

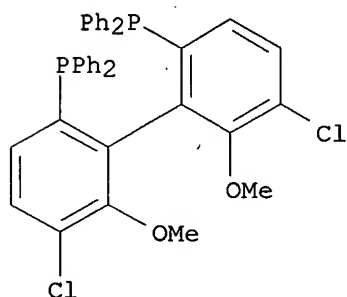
AB Page 11489, Table 3 is incorrect as the regioisomeric ratio of 9b:iso-9b should read "1:>99" instead of ">99:1". Coupling takes place proximal to the tert-Bu group. Acetylenic carbon atoms bearing a Ph moiety possess a characteristic C NMR chemical shift at δ 122-123. The structure of the major regioisomer has been reassigned on the basis of C NMR data.

IT 185913-97-7

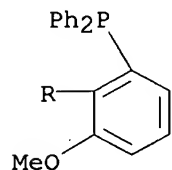
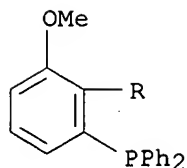
RL: CAT (Catalyst use); USES (Uses)

(regioselective and enantioselective catalytic reductive condensation of 1,3-diynes with glyoxals under the conditions of catalytic hydrogenation (Erratum))

RN 185913-97-7 CAPLUS
CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



L3 ANSWER 2 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:112136 CAPLUS
TITLE: Preparation of enantiomerically pure anti-1,3-diols by sequential ruthenium-mediated asymmetric hydrogenation reactions
AUTHOR(S): Labeeuw, Olivier; Bourg, Jean-Baptiste; Phansavath, Phannarath; Genet, Jean-Pierre
CORPORATE SOURCE: Laboratoire de Synthèse Selective Organique et Produits Naturels, ENSCP, UMR CNRS 7573, Paris, 75231/05, Fr.
SOURCE: ARKIVOC (Gainesville, FL, United States) (2007), (10), 94-106
CODEN: AGFUAR
URL: http://www.arkat-usa.org/ARKIVOC/JOURNAL_CONTENT/manuscripts/2007/AK-2204GP%20as%20published%20mainmanuscript.pdf
PUBLISHER: Arkat USA Inc.
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English
AB A ruthenium-mediated sequential approach to anti-1,3-diols is described. A series of enantiomerically enriched 1,3-diols has been synthesized from β -keto esters using ruthenium-mediated asym. hydrogenation followed by diastereoselective hydrogenation of the resulting β -hydroxy ketones, obtained via the corresponding Weinreb amides. Using this sequence, diversely substituted anti-1,3-diols were obtained in good yields with a very high level of enantio- and diastereoselectivity (ee and de up to 99%).
IT 133545-16-1, (R)-MeO-BIPHEP
RL: CAT (Catalyst use); USES (Uses)
(anti-1,3-diol enantiomers via sequential ruthenium complex catalyzed asym. hydrogenations of oxo esters)
RN 133545-16-1 CAPLUS
CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

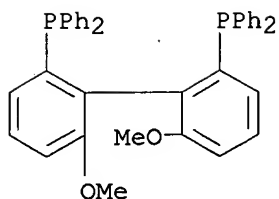
L3 ANSWER 3 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2007:82872 CAPLUS
 DOCUMENT NUMBER: 146:213812
 TITLE: Method for selectively catalyzing hydrogenated ketone by chiral diphosphorous complex of Pd
 INVENTOR(S): Zhou, Yonggui; Wang, Youqing; Lu, Shengmei
 PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1899695	A	20070124	CN 2005-10012241	20050721
PRIORITY APPLN. INFO.:			CN 2005-10012241	20050721

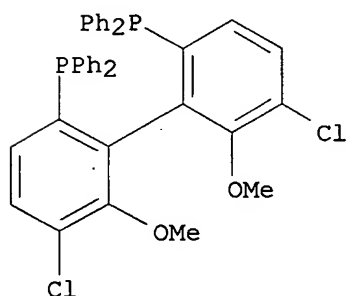
AB The title chiral diphosphorous complex of Pd is synthesized by mixing Pd precursor and chiral diphosphorous ligand, stirring in acetone at room temperature, and vacuum-concentrating The catalysis of hydrogenated ketone can be performed at 25-75°C and 3-70atm with 2,2,2-trifluoro ethanol as the solvent. α-o-benzamide substituted ketone can be 92% asym. induced by the catalyst. The method has the advantages of simple operation, wide raw material resources, high selectivity and high product yield, and is environment-friendly.

IT 133577-92-1, 6,6'-Dimethoxybiphenyl-2,2'-diyl-bis(diphenylphosphine)
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (method for selectively catalytic hydrogenation of ketone by chiral diphosphorous complex of palladium)

RN 133577-92-1 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
 (CA INDEX NAME)



L3 ANSWER 4 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2007:64843 CAPLUS
 DOCUMENT NUMBER: 146:184148
 TITLE: α -Hydroxy Esters via Enantioselective
 Hydrogen-Mediated C-C Coupling: Regiocontrolled
 Reactions of Silyl-Substituted 1,3-Diynes. [Erratum to
 document cited in CA145:335661]
 AUTHOR(S): Cho, Chang-Woo; Krische, Michael J.
 CORPORATE SOURCE: Department of Chemistry and Biochemistry, University
 of Texas at Austin, Austin, TX, 78712, USA
 SOURCE: Organic Letters (2007), 9(4), 735
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB On page 3874, in entry 12 of Table 1, the regioisomeric ratio of 3b:3c is
 1:>99, not >99:1. Coupling takes place proximal to the tert-Bu group.
 Acetylenic carbon atoms bearing a Ph moiety possess a characteristic C NMR
 chemical shift at δ 122-123. The structure of the major regioisomer
 has been reassigned on the basis of C NMR data.
 IT 185913-97-7, (R)-Cl,MeO-BIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of chiral α -hydroxy- β,γ -enynoates by
 rhodium-catalyzed asym. reductive regioselective coupling of 1,3-diynes
 with α -oxo esters and dihydrogen (Erratum))
 RN 185913-97-7 CAPLUS
 CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
 diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



L3 ANSWER 5 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2007:61774 CAPLUS
 DOCUMENT NUMBER: 146:162920
 TITLE: Copper(II) catalyzed addition of acids, alcohols,
 amines, and thiols to alkenes.
 INVENTOR(S): Hii, King Kuok
 PATENT ASSIGNEE(S): IC Innovations Limited, UK
 SOURCE: PCT Int. Appl., 41pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007007084	A2	20070118	WO 2006-GB2558	20060710
WO 2007007084	A3	20070301		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: GB 2005-14321 A 20050712
 GB 2006-9666 A 20060515

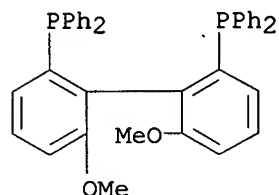
AB A process for the addition of a nucleophile (an acid, alc., amine, or thiol) to an alkene in the presence of a Cu(II) catalyst, was claimed. Thus, reaction of 4-methoxybenzoic acid with norbornene in dioxane in the presence of Cu(II) triflate at 80° to give 95% exo norbornyl ester.

IT 133577-92-1, MeO-Biphep 377773-83-6, Cl-MeO-Biphep

RL: CAT (Catalyst use); USES (Uses)
 (copper(II) catalyzed addition of acids, alcs., amines, and thiols to alkenes)

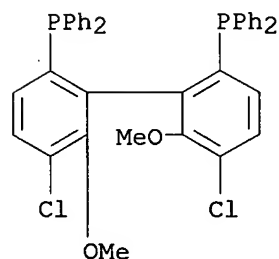
RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
 (CA INDEX NAME)



RN 377773-83-6 CAPLUS

CN Phosphine, (5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



ACCESSION NUMBER: 2007:52438 CAPLUS

TITLE: Enantioselective Synthesis of a Key Intermediate in a New Process for Orlistat Using Asymmetric Hydrogenation and a Grignard Reagent Promoted Lactone Cyclization

AUTHOR(S): Schwindt, Mark A.; Fleming, Michael P.; Han, Yeun-Kwei; Hodges, Lewis M.; Johnston, David A.; Micheli, Roger P.; Roberts, Chris R.; Snyder, Roger; Topping, Robert J.; Puentener, Kurt; Scalone, Michelangelo

CORPORATE SOURCE: Boulder Technology Center, Roche Colorado Corporation, Boulder, CO, 80301, USA

SOURCE: Organic Process Research & Development ACS ASAP

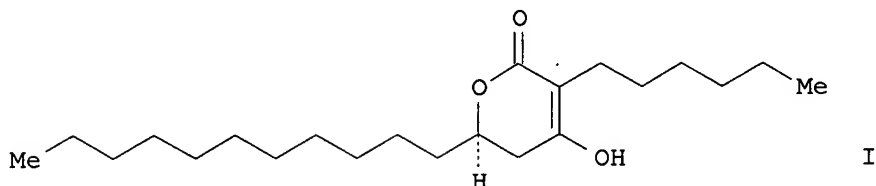
CODEN: OPRDFK; ISSN: 1083-6160

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB A new enantioselective synthesis of Orlistat suitable for large-scale preparation is described. Therein, the first isolated key intermediate (R)-3-hexyl-5,6-dihydro-4-hydroxy-6-undecyl-2H-pyran-2-one (I) was prepared via asym. hydrogenation of Me 3-oxotetradecanoate to give (S)-3-hydroxytetradecanoate, and subsequent acylation with 2-bromooctanoyl halide (bromide/chloride) to give (R)-3-[(2-bromo-1-oxooctyl)oxy]-tetradecanoic acid Me ester which underwent Me₃CMgCl promoted cyclization to give the single enantiomer I. I, which was previously published as a mixture of enantiomers, was carried on through several steps to Orlistat without any process changes.

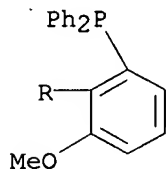
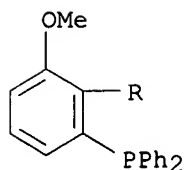
IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(Ru/biphenyldiylbis(diphenylphosphine) complex-catalyzed asym. hydrogenation of an oxotetradecanoate in the enantioselective preparation of hexyldihydro(hydroxy)undecylpyranone, an intermediate in process for Orlistat manufacture)

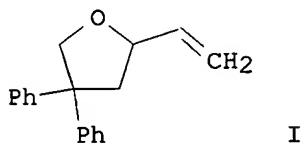
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

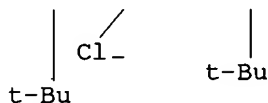
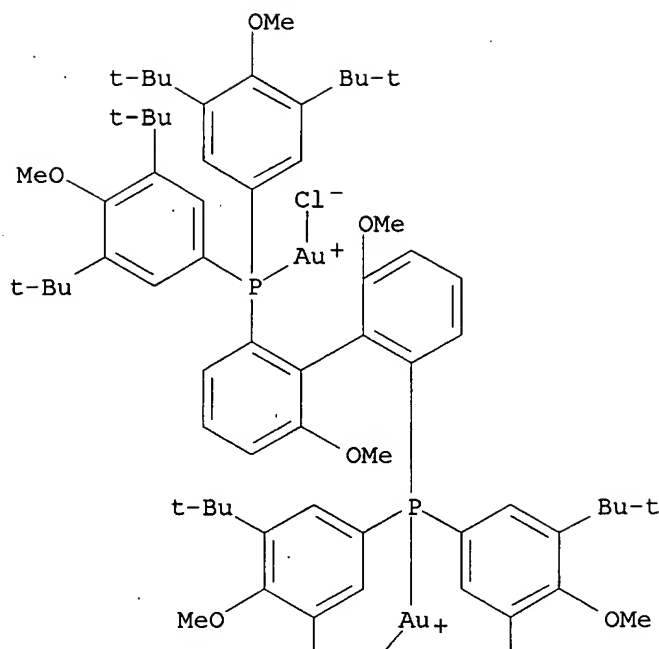


REFERENCE COUNT: 73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2007:26172 CAPLUS
 DOCUMENT NUMBER: 146:274176
 TITLE: Gold(I)-catalyzed intramolecular enantioselective hydroalkoxylation of allenes
 AUTHOR(S): Zhang, Zhibin; Widenhoefer, Ross A.
 CORPORATE SOURCE: P.M. Gross Chemical Laboratory, Duke University, Durham, NC, 27708-0346, USA
 SOURCE: Angewandte Chemie, International Edition (2007), 46(1+2), 283-285
 CODEN: ACIEF5; ISSN: 1433-7851
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB Turned by gold: The gold(I)-catalyzed enantioselective hydroalkoxylation of hydroxyallenes proceeded rapidly to give useful chiral all oxygen heterocycles, e.g., I, in high yields and with high stereoselectivity. The procedure was also effective for the cyclization of γ -hydroxyallenes that possess an axially chiral allenyl moiety and for the cyclization of δ -hydroxyallenes.
 IT 926902-23-0
 RL: CAT (Catalyst use); USES (Uses)
 (stereoselective preparation of vinyltetrahydrofurans/pyrans via gold-catalyzed intramol. enantioselective hydroalkoxylation of hydroxyallenes employing chiral phosphine ligands)
 RN 926902-23-0 CAPLUS
 CN INDEX NAME NOT YET ASSIGNED



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 8 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1305485 CAPLUS

DOCUMENT NUMBER: 146:184793

TITLE: Copolymerization of ethene and carbon monoxide with (diphosphine)nickel catalysts

AUTHOR(S): Leone, Antonella; Consiglio, Giambattista

CORPORATE SOURCE: Eidgenossische Technische Hochschule, Institut für Chemie und Bioingenieurwissenschaften, Zurich, CH-8093, Switz.

SOURCE: Helvetica Chimica Acta (2006), 89(11), 2720-2727

CODEN: HCACAV; ISSN: 0018-019X

PUBLISHER: Verlag Helvetica Chimica Acta

DOCUMENT TYPE: Journal

LANGUAGE: English

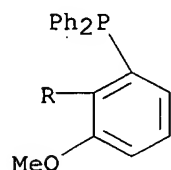
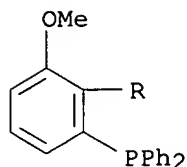
AB This work presents the results of the ethene-CO copolymerization with in situ generated catalysts based on atropisomeric 1,4-diphosphine and nickel(II). The influence of the reaction conditions and the NMR characterization of the copolymers are described.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(ligand, polymerization catalyst; polymerization of ethene and carbon monoxide with (diphosphine)nickel catalysts)

RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 9 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1267757 CAPLUS

DOCUMENT NUMBER: 146:162896

TITLE: The asymmetric hydrogenation of 2-phenethylacrylic acid as the key step for the enantioselective synthesis of Citralis Nitrile

AUTHOR(S): Scrivanti, Alberto; Bovo, Sara; Ciappa, Alessandra; Matteoli, Ugo

CORPORATE SOURCE: Dipartimento di Chimica, Dorsoduro, Università di Venezia, Venice, 30123, Italy

SOURCE: Tetrahedron Letters (2006), 47(52), 9261-9265
CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A catalytic approach to the enantioselective synthesis of Citralis Nitrile (3-methyl-5-phenylpentanenitrile, a citrus-type odorant) is described. The key step is the transition-metal catalyzed asym. hydrogenation of 2-phenethylacrylic acid. Among the different catalysts tested, the most efficient appears to be the one formed by combining in-situ [Ru(benzene)Cl₂]₂ with the atropisomeric diphosphine MeOBIPHEP, and Et₃N, which allows us to obtain ≤98% ee under mild conditions. Very good results (>80% ee) have also been obtained using iridium cationic complexes in combination with a phosphinooxazoline ligand.

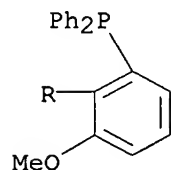
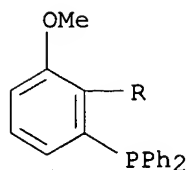
IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(enantioselective synthesis of Citralis Nitrile by asym. hydrogenation of phenethylacrylate)

RN 133545-16-1 CAPLUS

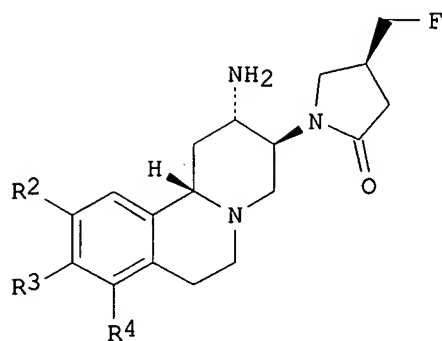
CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 10 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:1256216 CAPLUS
 DOCUMENT NUMBER: 146:27973
 TITLE: Preparation of (S)-4-fluoromethyl-dihydro-furan-2-one and its use in synthesis of pyrido[2,1-a]isoquinoline derivatives
 INVENTOR(S): Abrecht, Stefan; Adam, Jean-Michel; Fettes, Alec; Foricher, Joseph; Lohri, Bruno; Mattei, Patrizio; Moine, Gerard; Schmid, Rudolf; Zutter, Ulrich
 PATENT ASSIGNEE(S): F. Hoffmann-La Roche AG, Switz.
 SOURCE: PCT Int. Appl., 55pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006125728	A1	20061130	WO 2006-EP62291	20060515
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
US 2006270853	A1	20061130	US 2006-438034	20060519
PRIORITY APPLN. INFO.:			EP 2005-104408	A 20050524
OTHER SOURCE(S):			CASREACT 146:27973; MARPAT 146:27973	
GI				



II

AB This invention relates to a process of the preparation of the novel intermediate (S)-4-(fluoromethyl)dihydrofuran-2-one (I) and with its use for the manufacture of pyrido[2,1-a]isoquinoline derivs. II (R2, R3, R4 = H, halo, alkyl, alkoxy, alkenyl) which are useful for the treatment and/or prophylaxis of diseases which are associated with DPP IV.

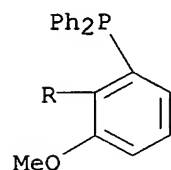
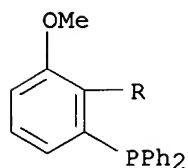
IT 133545-17-2 145214-63-7 167709-31-1
362634-22-8

RL: CAT (Catalyst use); USES (Uses)

(preparation of (S)-4-(fluoromethyl)dihydrofuran-2-one as use in asym. synthesis of pyrido[2,1-a]isoquinoline derivs.)

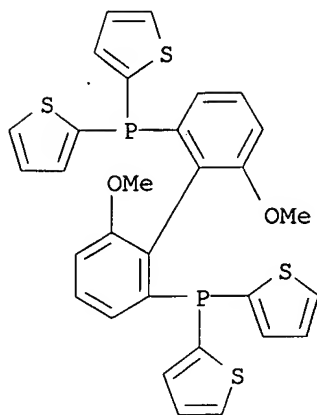
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



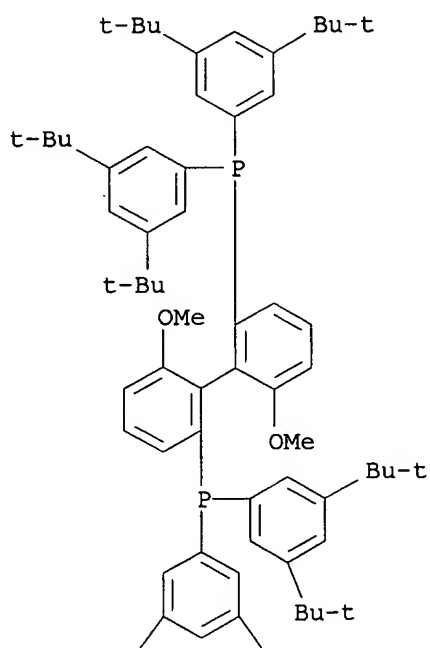
RN 145214-63-7 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-thienyl- (CA INDEX NAME)



RN 167709-31-1 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)

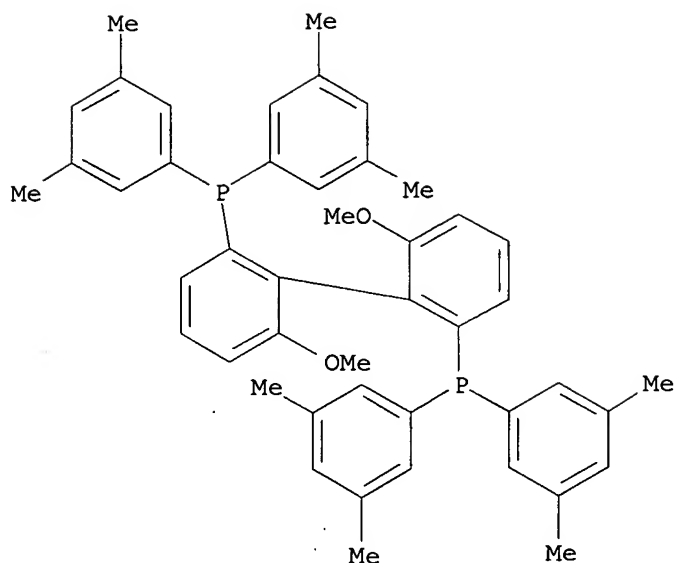
PAGE 1-A



PAGE 2-A



RN 362634-22-8 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis(3,5-dimethylphenyl)- (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 11 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1250267 CAPLUS

DOCUMENT NUMBER: 146:162835

TITLE: Copper(I)-catalyzed enantio- and diastereoselective tandem reductive aldol reaction

AUTHOR(S): Chuzel, Olivier; Deschamp, Julia; Chausteur, Christophe; Riant, Olivier

CORPORATE SOURCE: Unite de chimie organique et medicinale, Universite catholique de Louvain, Louvain-la-Neuve, 1348, Belg.

SOURCE: Organic Letters (2006), 8(26), 5943-5946
CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

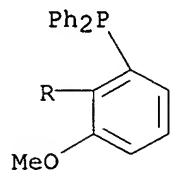
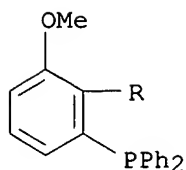
AB An efficient method for the enantioselective tandem reductive aldol reaction of Me acrylate with aldehydes is described. By using a copper(I) precursor and a proper diphosphane ligand, high reactivities was reached. Taniaphos-based ligands lead to the highest enantioselectivities in the case of the major syn diastereoisomer.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)
(stereoselective preparation of β -hydroxy esters via asym. tandem reductive aldol reaction of aldehydes with acrylate in presence of silanes)

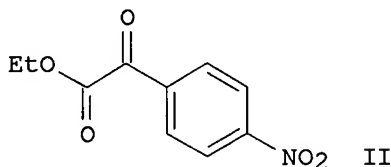
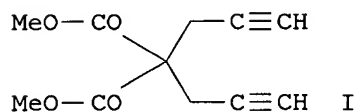
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 12 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:1250252 CAPLUS
 DOCUMENT NUMBER: 146:100215
 TITLE: Catalytic Carbonyl Z-Dienylation via Multicomponent Reductive Coupling of Acetylene to Aldehydes and α -Ketoesters Mediated by Hydrogen: Carbonyl Insertion into Cationic Rhodacyclopentadienes
 AUTHOR(S): Kong, Jong Rock; Krische, Michael J.
 CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of Texas at Austin, Austin, TX, 78712, USA
 SOURCE: Journal of the American Chemical Society (2006), 128(50), 16040-16041
 CODEN: JACSAT; ISSN: 0002-7863
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



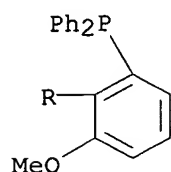
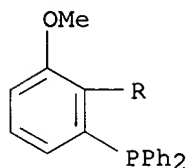
AB Exposure of aldehydes or α -ketoesters to equal vols. of acetylene and hydrogen gas at ambient temperature and pressure in the presence of cationic rhodium catalysts provides products of carbonyl Z-butadienylation, which arise via multicomponent coupling of four mols.: two mols. of acetylene, a mol. of vicinal dicarbonyl compound, and a mol. of elemental hydrogen. The collective data suggest a catalytic mechanism involving carbonyl insertion into a cationic rhodacyclopentadiene intermediate derived via oxidative dimerization of acetylene. Hydrogenolytic cleavage of the resulting oxarhodacycloheptadiene via formal σ -bond metathesis provides the product of carbonyl addition and cationic rhodium(I) to close the catalytic cycle. Studies involving the hydrogenation of 1,6-diyne 14a (I) in the presence of α -ketoester 6a (II) corroborate the proposed catalytic mechanism. These multicomponent couplings represent the first use of acetylene gas, a basic chemical feedstock, in metal-catalyzed reductive C-C

bond formation.

IT 133545-16-1
 RL: CAT (Catalyst use); USES (Uses)
 (catalytic carbonyl Z-dienylation via multicomponent reductive coupling
 of acetylene to aldehydes and α -ketoesters mediated by hydrogen,
 carbonyl insertion into cationic rhodacyclopentadienes)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 13 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1237926 CAPLUS

DOCUMENT NUMBER: 146:142450

TITLE: α,β -Unsaturated δ -lactones from
 copper-catalyzed asymmetric vinylogous Mukaiyama
 reactions of aldehydes: scope and mechanistic insights

AUTHOR(S): Bazan-Tejeda, Belen; Bluet, Guillaume; Broustal,
 Garance; Campagne, Jean-Marc

CORPORATE SOURCE: Institut de Chimie des Substances Naturelles, CNRS,
 Gif-sur-Yvette, 91198, Fr.

SOURCE: Chemistry--A European Journal (2006), 12(32),
 8358-8366

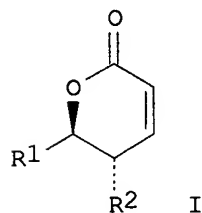
PUBLISHER: CODEN: CEUJED; ISSN: 0947-6539

DOCUMENT TYPE: Wiley-VCH Verlag GmbH & Co. KGaA

LANGUAGE: Journal

OTHER SOURCE(S): English

GI CASREACT 146:142450



AB A direct regio-, diastereo-, and enantiocontrolled access to

α,β -unsatd. δ -lactones I [R1 = Me2CH, n-Pr, Ph, 2,3-(MeO)2C6H3, 1-naphthyl, 2-furyl, PhCH:CH; R2 = H, Me] based on the reaction of silyl dienolates R2CH:CHCH:C(OMe)OSiMe3 and aldehydes R1CHO in the presence of 10% of Carreira's catalyst is described. The scope and limitations of this reaction, as well as mechanistic insights concerning the reactivity of an allyl copper species, are discussed.

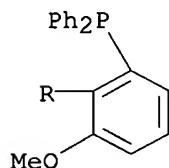
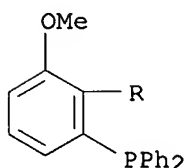
IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of α,β -unsatd. δ -lactones by copper-catalyzed asym. vinylogous Mukaiyama reactions of aldehydes with silyl dienolates)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 69 THERE ARE 69 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 14 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1135182 CAPLUS

DOCUMENT NUMBER: 146:62400

TITLE: Enantioselective hydrogenation of β -keto esters using a MeO-PEG-supported Biphep ligand under atmospheric pressure: a practical synthesis of (S)-fluoxetine

AUTHOR(S): Chai, Liting; Chen, Huansheng; Li, Zhiming; Wang, Quanrui; Tao, Fenggang

CORPORATE SOURCE: Department of Chemistry, Fudan University, Shanghai, 200433, Peop. Rep. China

SOURCE: Synlett (2006), (15), 2395-2398

CODEN: SYNLES; ISSN: 0936-5214

PUBLISHER: Georg Thieme Verlag

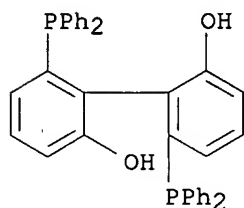
DOCUMENT TYPE: Journal

LANGUAGE: English

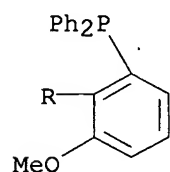
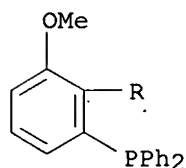
OTHER SOURCE(S): CASREACT 146:62400

AB The preparation of a novel chiral 2,2'-bis(MeO-PEG-supported)-6,6'-bis(diphenylphosphinyl)biphenyl (MeO-PEG-Biphep) ligand is described. The derived ruthenium complex catalyzes the hydrogenation of β -keto esters in up to 99% yield and 99% ee under atmospheric pressure. The accelerating effects exerted by the PEG linkage are dramatic when compared to the unsupported analog, MeO-Biphep-RuBr2. Furthermore, the catalyst can be recovered easily and the recycled catalysts were shown to maintain their efficiency in two consecutive runs, albeit with declining activity. One of the products, (S)-ethyl-3-hydroxy-3-phenylpropanoate, is useful in the preparation of (S)-fluoxetine.

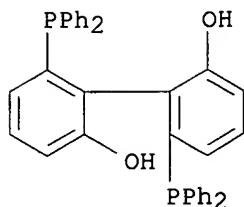
IT 151395-61-8DP, MeO-PEG supported
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)
 (preparation of fluoxetine via enantioselective hydrogenation of β -keto
 esters using polymer-supported phosphine ligand under atmospheric pressure)
 RN 151395-61-8 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX
 NAME)



IT 133545-16-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of polymer-supported phosphine ligand for ruthenium-catalyzed
 enantioselective hydrogenation of β -keto esters under atmospheric
 pressure)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)



IT 151395-61-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation of polymer-supported phosphine ligand for ruthenium-catalyzed
 enantioselective hydrogenation of β -keto esters under atmospheric
 pressure)
 RN 151395-61-8 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX
 NAME)

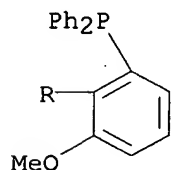
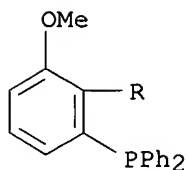


REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

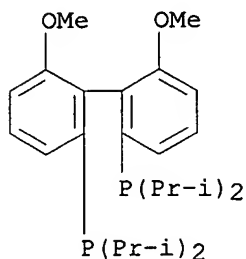
L3 ANSWER 15 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:1095655 CAPLUS
 DOCUMENT NUMBER: 145:438994
 TITLE: Manufacture of lactones
 INVENTOR(S): Bonrath, Werner; Karge, Reinhard; Roessler, Felix
 PATENT ASSIGNEE(S): DSM Ip Assets B.V., Neth.
 SOURCE: PCT Int. Appl., 40pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006108562	A1	20061019	WO 2006-EP3163	20060407
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: EP 2005-7722 A 20050408
 AB The present invention relates to a process for the manufacture of cyclic monocarboxylic esters (lactones) and related compds. by hydrogenation of cyclic dicarboxylic acid anhydrides in the presence of metal catalysts.
 IT 133545-17-2 150971-45-2
 RL: CAT (Catalyst use); USES (Uses)
 (manufacture of lactones)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



RN 150971-45-2 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)-(9CI) (CA INDEX NAME)]



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 16 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:1093284 CAPLUS
 DOCUMENT NUMBER: 145:438514
 TITLE: Process for preparation of optionally chiral cyclic carboxylic esters by homogeneous hydrogenation of cyclic dicarboxylic anhydrides catalyzed by iridium complexes with chiral phosphines
 INVENTOR(S): Spindler, Felix
 PATENT ASSIGNEE(S): Solvias A.-G., Switz.
 SOURCE: PCT Int. Appl., 35pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006108802	A1	20061019	WO 2006-EP61424	20060407
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,				

IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.:

CH 2005-641

A 20050408

OTHER SOURCE(S):

CASREACT 145:438514; MARPAT 145:438514

AB The invention describes the preparation of lactones, with exception of 3,4-diaminotetrahydro-2-furanones, by catalytic hydrogenation of optional functionally substituted (hetero)aliphatic, (hetero)aromatic and mixed-type cyclic anhydrides containing 1-4 anhydride groups C(O)OC(O) and having up to 60 carbon atoms and 3-8 ring atoms, preferably 5 or 6 ring atoms, at -20° to 150°, preferably at 10-80° and 1-200 atm of H₂ in the presence of 0.0001-10 mol%, preferably 0.01-5 mol% of iridium complex with optionally chiral phosphorus ligands (R₅₀) (R₆₀) PNR₇R₈, preferably 2,2'-binaphthol or 2,2'-biphenol derivs., diphosphines X1R₃X₂ (preferably X₁ = X₂ = diorganophosphino; R₃ = C1-6 alkylene, C5-6 cycloalkylene, phenylene, naphthalenediyl, heterocyclyl, ferrocenediyl), a cocatalyst halide salt, preferably Bu₄NI and optionally protic acid as a cocatalyst. The cyclic esters are obtained in good chemical and optical yields when prochiral anhydrides are used together with chiral iridium catalysts. In an example, hydrogenation of 1.62 mmol of cis-cyclohexanedicarboxylic anhydride in the presence of 0.0165 mmol of [Ir(cod)Cl]₂ and 0.036 mmol of (1R)-2,2'-bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-biphenyl in 10 mL of CH₂Cl₂ at 80 atm of H₂ and 60° for 15 h gave a quant. yield of (1R)-3-oxabicyclo[4.3.0]nonan-2-one with 62% ee.

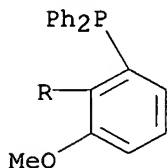
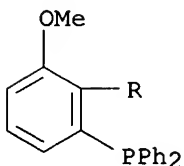
IT 133545-16-1 910134-30-4

RL: CAT (Catalyst use); USES (Uses)

(process for preparation of chiral lactones by asym. hydrogenation of cyclic dicarboxylic anhydrides catalyzed by iridium phosphine complexes)

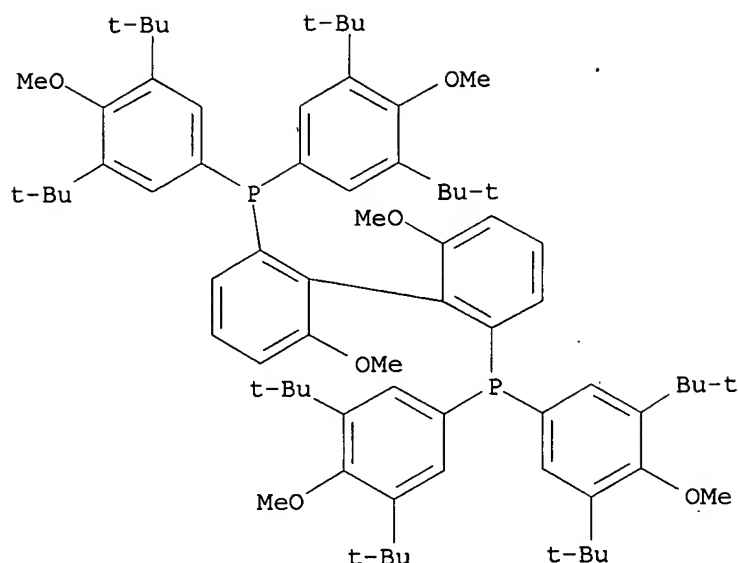
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



RN 910134-30-4 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)]



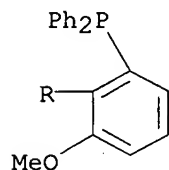
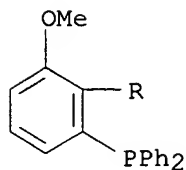
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 17 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:1091055 CAPLUS
 DOCUMENT NUMBER: 145:438993
 TITLE: Manufacture of thiolactones
 INVENTOR(S): Bonrath, Werner; Karge, Reinhard; Roessler, Felix
 PATENT ASSIGNEE(S): DSM Ip Assets B.V., Neth.
 SOURCE: PCT Int. Appl., 33pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006108636	A1	20061019	WO 2006-EP3375	20060412
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: EP 2005-8254 A 20050415
 AB The present invention relates to a process for the manufacture of cyclic thio esters (thiolactones) and related compds. by hydrogenation of cyclic thioanhydrides in the presence of metal catalysts.
 IT 133545-17-2
 RL: CAT (Catalyst use); USES (Uses)
 (manufacture of thiolactones)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-

diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 18 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1031099 CAPLUS

DOCUMENT NUMBER: 145:396793

TITLE: In situ generated asymmetric palladium phosphine catalyst and uses thereof

INVENTOR(S): Hii, King Kuok

PATENT ASSIGNEE(S): Ic Innovations Limited, UK

SOURCE: PCT Int. Appl., 33pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006103453	A1	20061005	WO 2006-GB1181	20060330
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

PRIORITY APPLN. INFO.: GB 2005-6600 A 20050331
GB 2005-19870 A 20050929

OTHER SOURCE(S): MARPAT 145:396793

AB Claimed is a process for enantioselective addition of an amine to an alkene comprising incubating Pd(OTf)₂ (OTf = triflate) with a phosphine ligand which has one or more biaryl groups to form an asym. catalyst in situ, then adding the amine and alkene to the in situ-generated catalyst to give the hydroamination product enantioselectively. The biarylphosphine ligand may be chiral mono-phosphines (e.g., (R)- or (S)-Monophos), diphosphines (e.g., (R)-BINAP), or triphosphines. The complexes [(R-BINAP)Pd(OH₂)₂](OTf)₂ and [(R-BINAP)₂Pd](OTf)₂ were isolated,

characterized by x-ray crystallog. (figures provided with no data), and are also catalysts in the asym. hydroamination reaction.

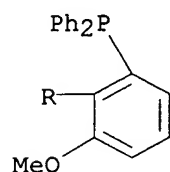
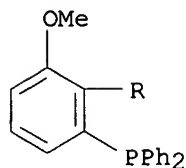
IT 133545-16-1 185913-97-7

RL: CAT (Catalyst use); USES (Uses)

(enantioselective hydroamination of alkenes with amines catalyzed by in situ-generated asym. palladium phosphine catalysts)

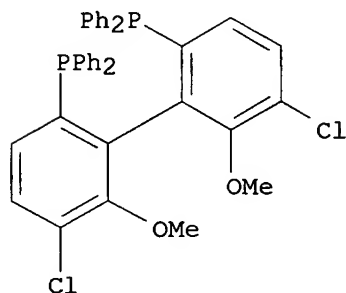
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

4

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 19 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1001507 CAPLUS

DOCUMENT NUMBER: 146:34048

TITLE: Heterogeneous asymmetric hydroformylation of olefins on chirally modified Rh/SiO2 catalysts

AUTHOR(S): Han, Difei; Li, Xiaohong; Zhang, Huidong; Liu, Zhimin; Li, Jun; Li, Can

CORPORATE SOURCE: State Key Laboratory of Catalysis, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China

SOURCE: Journal of Catalysis (2006), 243(2), 318-328

CODEN: JCTLA5; ISSN: 0021-9517

PUBLISHER: Elsevier Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 146:34048

AB Heterogeneous chiral catalysts were prepared by modifying silica-supported rhodium (Rh/SiO₂) with chiral phosphorus ligands. The chirally modified Rh/SiO₂ catalysts exhibited high activity, regioselectivity, and enantioselectivity for the asym. hydroformylation of styrene and vinyl acetate. Up to 72% ee and 100% selectivity of branched aldehyde for the hydroformylation of vinyl acetate were obtained for (R)-BINAP-Rh/SiO₂ catalysts. It is noteworthy that the modification of Rh/SiO₂ with (S,S)-DIOP resulted in increased activity for the hydroformylation of vinyl acetate and gave a TOF of 128 h⁻¹, even higher than that of the unmodified Rh/SiO₂ catalyst (90 h⁻¹). It is found that chiral modifiers with bidentate phosphines and an optimized modifier/rhodium molar ratio close to 1.0 were prerequisites for chiral induction on the chirally modified catalysts. ³¹P MAS NMR results and IR spectra of adsorbed CO indicated that the chiral modification via the coordination of phosphines to rhodium produces chirally active sites on the Rh/SiO₂ catalysts.

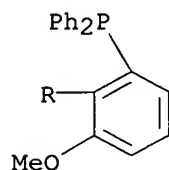
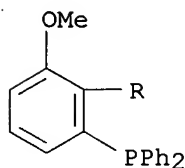
IT 133545-17-2, (S)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(preparation and characterization of silica-supported rhodium complexes with chiral and achiral phosphines as catalysts for regioselective and enantioselective hydroformylation reactions of styrene and vinyl acetate)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 20 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:960825 CAPLUS

DOCUMENT NUMBER: 145:489753

TITLE: Statistical approach for the determination of the stereoregularity of optically active propylene-CO copolymers

AUTHOR(S): Bronco, Simona

CORPORATE SOURCE: PolyLab-CNR and Department of Chemistry and Industrial Chemistry, University of Pisa, Pisa, I-56126, Italy

SOURCE: Helvetica Chimica Acta (2006), 89(8), 1740-1751

CODEN: HCACAV; ISSN: 0018-019X

PUBLISHER: Verlag Helvetica Chimica Acta

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A two-parameter statistic model was applied to analyze the NMR spectra of a series of stereoregular propylene-CO copolymers synthesized by catalytic

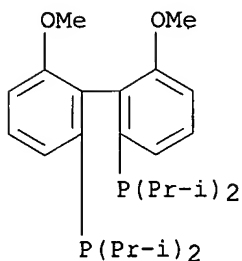
polymerization in the presence of various transition-metal complexes containing chiral ligands. The concentration of the different pentads, estimated to be recognizable in the spectra, was determined. A tentative assignment of the nature of the different peaks composing the signal of the C=O group in the ¹³C-NMR spectra is proposed.

IT 150971-43-0 150971-51-0 150971-55-4
172617-14-0

RL: CAT (Catalyst use); USES (Uses)
(ligand; effect on preparation and stereoregularity of optically active propylene-CO copolymers)

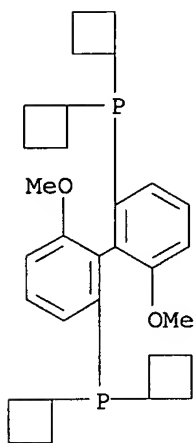
RN 150971-43-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)]



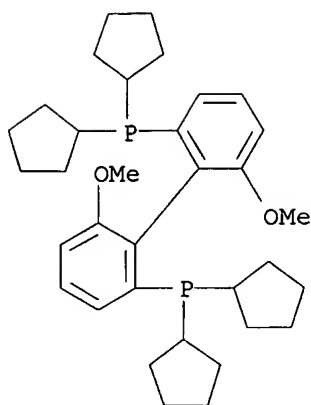
RN 150971-51-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclobutyl- (9CI) (CA INDEX NAME)]



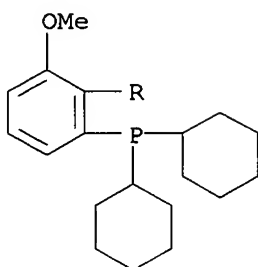
RN 150971-55-4 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclopentyl- (9CI) (CA INDEX NAME)]

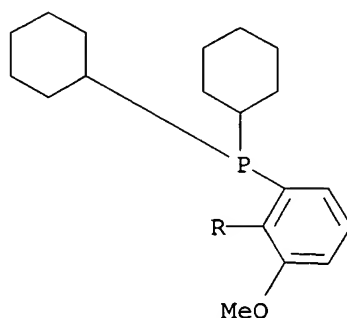


RN 172617-14-0 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclohexyl-,
 (R)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

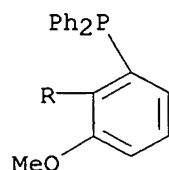
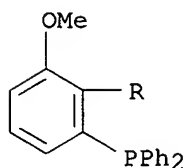
L3 ANSWER 21 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:939080 CAPLUS
 DOCUMENT NUMBER: 145:364392
 TITLE: Method for manufacturing polymer-carried ru catalyst
 for synthesis of chiral secondary alcohol under normal
 pressure
 INVENTOR(S): Wang, Quanrui; Chai, Liting; Chen, Huansheng; Wang,
 Weiwei; Tao, Fenggang
 PATENT ASSIGNEE(S): Fudan University, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

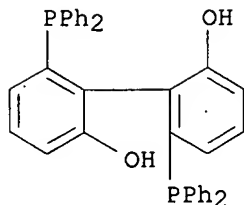
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1827216	A	20060906	CN 2006-10025279	20060330
PRIORITY APPLN. INFO.:			CN 2006-10025279	20060330

AB The title catalyst is manufactured by reaction of carrier ligand, Ru complex ((COD)Ru(-CH₂CH(CH₃)CH₂)₂) and hydrogen bromide methanol solution in acetone, wherein the mol ratio of the three reactants is (1-2):1:(2-3). The carrier ligand is prepared by reaction of polymer carrier (PEG) with chiral diphosphine (MeO-biphep) and base in organic solution, wherein the ratio of the three reactants is (1-3):1:(1-4). The catalyst can be used in synthesis of chiral secondary alcs. from precursor chiral ketones under normal pressure and at temperature range of room temperature to 80 °C. The catalyst obviates high pressure and high temperature reactor, and can be recycled conveniently. The catalyst also has the advantages of simple reaction process, high reaction rate, high yield, high stereoselectivity, low cost and no pollution.

IT 133545-16-1
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of polymer-supported ruthenium catalyst for synthesis of chiral secondary alc. by hydrogenation)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



IT 151395-61-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of polymer-supported ruthenium catalyst for synthesis of chiral secondary alc. by hydrogenation)
 RN 151395-61-8 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)



L3 ANSWER 22 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:912246 CAPLUS

DOCUMENT NUMBER: 145:489519

TITLE: Enantio- and Diastereoselective Hydrogenation via Dynamic Kinetic Resolution by a Cationic Iridium Complex in the Synthesis of β -Hydroxy- α -amino Acid Esters

AUTHOR(S): Makino, Kazuishi; Iwasaki, Masamichi; Hamada, Yasumasa
CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Chiba University, Chiba, 263-8522, Japan

SOURCE: Organic Letters (2006), 8(20), 4573-4576
CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:489519

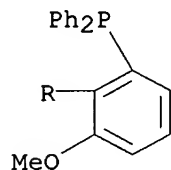
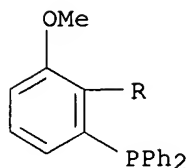
AB In the presence of a nonracemic catalyst generated in situ from $[\text{IrCl}(\text{COD})]_2$, sodium tetrakis[3,5-bis(trifluoromethyl)phenyl]borate, and (S)-MeO-BIPHEP, α -amino- β -keto ester hydrochlorides $\text{RCOCH}(\text{NH}_2)\text{CO}_2\text{Me} \cdot \text{HCl}$ ($\text{R} = \text{Ph}$, 3-MeC₆H₄, 4-MeC₆H₄, 4-Me₃CC₆H₄, 4-PhCH₂OC₆H₄, 3-Cl-4-PhCH₂OC₆H₃, 4-BrC₆H₄, 2-naphthyl, 2-thienyl, 2-furyl) and $\text{Me}_3\text{CCOCH}(\text{NH}_2)\text{CO}_2\text{CH}_2\text{Ph} \cdot \text{HCl}$ undergo stereoselective and enantioselective hydrogenation mediated by dynamic kinetic resolution followed by benzoylation to give nonracemic anti- α -(benzoylamino)- β -hydroxy esters $\text{RCH}(\text{OH})\text{CH}(\text{NHBz})\text{CO}_2\text{Me}$ ($\text{R} = \text{Ph}$, 3-MeC₆H₄, 4-MeC₆H₄, 4-Me₃CC₆H₄, 4-PhCH₂OC₆H₄, 3-Cl-4-PhCH₂OC₆H₃, 4-BrC₆H₄, 2-naphthyl, 2-thienyl, 2-furyl) and $\text{Me}_3\text{CCCH}(\text{OH})\text{CH}(\text{NHCOPh})\text{CO}_2\text{CH}_2\text{Ph}$ in 61-100% yields and in 82-93% ee. The catalyst is more easily handled and requires lower hydrogen pressures than previous iridium hydrogenation catalysts used for the preparation of α -amino- β -hydroxy esters. The rates of formation of the enantiomers of anti-PhCH(OH)CH(NH₂)CO₂Me by hydrogenation of PhC(:O)CH(NH₂)CO₂Me \cdot HCl in the presence of $[\text{IrCl}(\text{COD})]_2$, sodium tetrakis[3,5-bis(trifluoromethyl)phenyl]borate, and (S)-MeO-BIPHEP respond differently to changes in the hydrogen pressure used.

IT 133545-17-2, (S)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)
(stereoselective and enantioselective preparation of anti- α -(benzoylamino)- β -keto esters using the hydrogenation and dynamic kinetic resolution of α -amino- β -keto esters in the presence of a cationic iridium complex)

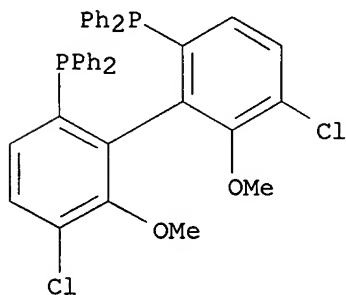
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 23 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:908576 CAPLUS
 DOCUMENT NUMBER: 145:471172
 TITLE: Rhodium-Catalyzed Asymmetric Allylic Substitution with Boronic Acid Nucleophiles
 AUTHOR(S): Menard, Frederic; Chapman, Timothy M.; Dockendorff, Chris; Lautens, Mark
 CORPORATE SOURCE: Davenport Laboratories, Department of Chemistry, University of Toronto, Toronto, ON, M5H 3H6, Can.
 SOURCE: Organic Letters (2006), 8(20), 4569-4572
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB An enantio-, regio-, and diastereoselective rhodium(I)-catalyzed desymmetrization of a meso-cyclic allylic dicarbonate with organoboronic acid nucleophiles is described. The rhodium(I) catalyst formed in situ from [Rh(cod)OH]₂ and Xyl-P-PHOS allowed the SN2' allylic substitution product to be obtained with a range of arylboronic acids in enantiomeric excesses of up to 92% with regioselectivities of up to >20:1.
 IT 185913-97-7
 RL: CAT (Catalyst use); USES (Uses)
 (rhodium-catalyzed asym. allylic substitution with boronic acid nucleophiles)
 RN 185913-97-7 CAPLUS
 CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 24 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:866581 CAPLUS

DOCUMENT NUMBER: 145:271387

TITLE: Process for the preparation of enantiomerically pure 1-substituted-3-amino alcohols using methyl ketones, primary amines, formaldehydes and sulfonic acids

INVENTOR(S): Brieden, Walter; Clausen, Martin; McGarrity, John; Mettler, Hanspeter; Michel, Dominique

PATENT ASSIGNEE(S): Lonza A.-G., Switz.

SOURCE: PCT Int. Appl., 38pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

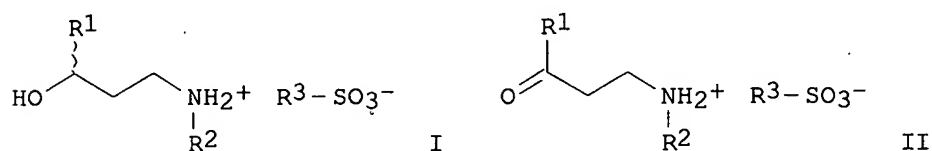
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006087166	A1	20060824	WO 2006-EP1334	20060214
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
EP 1693371	A1	20060823	EP 2005-3657	20050221
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU			

PRIORITY APPLN. INFO.: EP 2005-3657 A 20050221

OTHER SOURCE(S): CASREACT 145:271387; MARPAT 145:271387

GI



AB Provided is a process for the preparation of N-monosubstituted β -aminoalc. sulfonates of formula I. Comps. of formula I wherein R1 is (un)substituted C6-20 aryl or (un)substituted C4-12 heteroaryl; R2 is C1-4-alkyl or (un)substituted C6-20 aryl; R3 is selected from the group consisting of C1-18 alkyl, C6-20 cycloalkyl, C6-20 aryl and C7-20 aralkyl residues, and the process for preparing comps. of formula I are claimed. The process comprising the steps of a) reacting a Me ketone, a primary amine, formaldehyde and a sulfonic acid, at a pressure above 1.5 bar, optionally in a organic solvent, said organic solvent optionally containing water, to afford N-monosubstituted β -amino ketone sulfonates of formula II,

wherein R1, R2 and R3 are as defined above, and b) asym. hydrogenating said sulfonates in the presence of a base and a catalyst, comprising a transition metal and a diphosphine ligand, in a polar solvent, optionally in the presence of water.

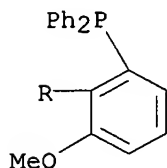
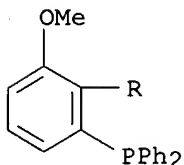
IT 133545-16-1 133545-17-2, (S)-MeO-BiPhep

RL: CAT (Catalyst use); USES (Uses)

(catalyst; preparation of enantiomerically pure sulfonate salts of substituted amino alcs. and amino ketones by reacting Me ketones, primary amine, formaldehyde and sulfonic acids)

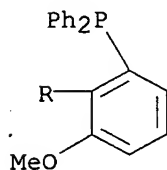
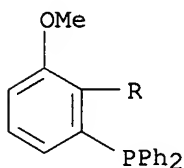
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT:

6

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 25 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:759321 CAPLUS

DOCUMENT NUMBER: 145:335881

TITLE: Highly enantioselective reductive cyclization of acetylenic aldehydes via rhodium catalyzed asymmetric hydrogenation

AUTHOR(S): Rhee, Jong Uk; Krische, Michael J.

CORPORATE SOURCE: Department of Chemistry and Biochemistry, University

SOURCE: of Texas at Austin, Austin, TX, 78712, USA
Journal of the American Chemical Society (2006),
128(33), 10674-10675
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 145:335881

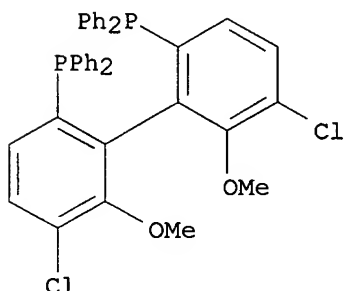
AB Catalytic hydrogenation of acetylenic aldehydes using chirally modified cationic rhodium catalysts enabled highly enantioselective reductive cyclization to afford cyclic allylic alcs. Using an achiral hydrogenation catalyst, the chiral racemic acetylenic aldehydes engaged in highly syn-diastereoselective reductive cyclizations to afford cyclic allylic alcs. Ozonolysis of cyclization products allowed access to optically enriched α -hydroxy ketones. Reductive cyclization of enyne under a deuterium atmospheric provided the monodeuterated product, consistent with a catalytic mechanism involving alkyne-carbonyl oxidative coupling followed by hydrogenolytic cleavage of the resulting oxametallacycle. These hydrogen-mediated transformations represents an examples of the enantioselective reductive cyclization of acetylenic aldehydes.

IT 185913-97-7

RL: CAT (Catalyst use); USES (Uses)
(stereoselective preparation of pyrrolidinols and furanols via ozonolysis of (allyl)acetylene derivs. followed by BIPHEP-rhodium-catalyzed asym. hydrogenation/reductive cyclization)

RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 26 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:729444 CAPLUS

DOCUMENT NUMBER: 145:356593

TITLE: Platinum-Catalyzed Intramolecular Asymmetric Hydroarylation of Unactivated Alkenes with Indoles

AUTHOR(S): Han, Xiaoqing; Widenhoefer, Ross A.

CORPORATE SOURCE: P. M. Gross Chemical Laboratory, Duke University, Durham, NC, 27708-0346, USA

SOURCE: Organic Letters (2006), 8(17), 3801-3804
CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A 1:1 mixture of the Pt bis(phosphine) complex [(S)-4]PtCl₂ [(S)-4 = (S)-3,5-t-Bu-4-MeO-MeOBIPHEP] catalyzes the intramol. asym. hydroarylation of 2-(4-pentenyl)indoles in moderate to good yield with up to 90% ee. E.g., reaction of a suspension of 2-(2,2-dicarbomethoxy-4-pentenyl)-1-

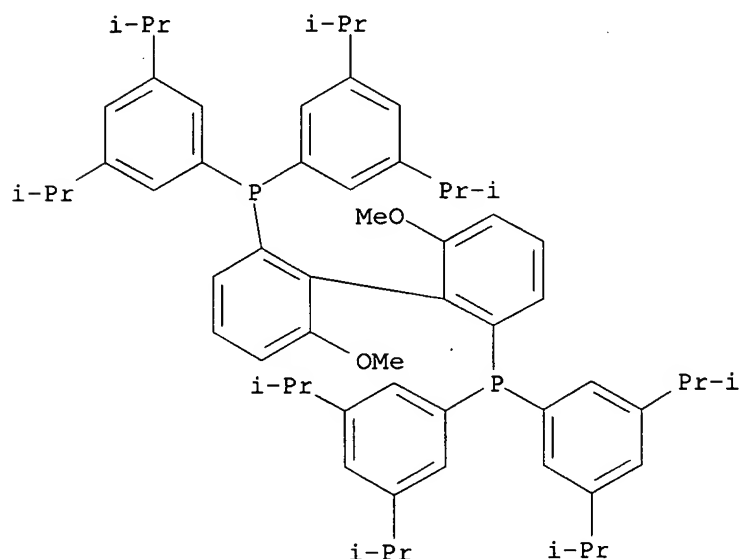
benzylindole, [(S)-3,5-t-Bu-4-MeO-MeOBIPHEP]PdCl₂ (10 mol%) and AgOTf in MeOH was stirred at 60° for 20 h to give 2,2-dicarbomethoxy-4-methyl-9-benzyl-1,3,4,9-tetrahydrocarbazole in 95% yield.

IT 256390-45-1 910134-30-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(Pt-catalyzed intramol. asym. hydroarylation of unactivated (pentenyl)indoles to give tetrahydrocarbazole)

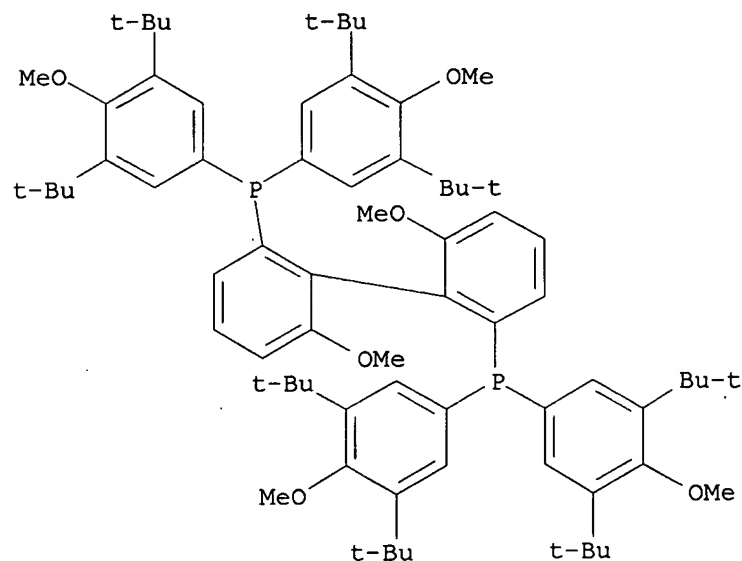
RN 256390-45-1 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-bis(1-methylethyl)phenyl)- (9CI) (CA INDEX NAME)



RN 910134-30-4 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl)- (9CI) (CA INDEX NAME)

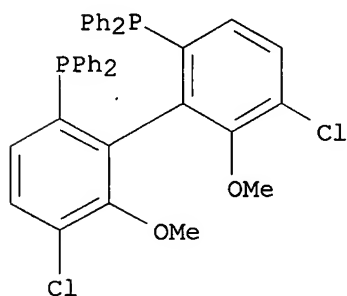


REFERENCE COUNT:

49

THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS

L3 ANSWER 27 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:725322 CAPLUS
 DOCUMENT NUMBER: 145:335661
 TITLE: α -Hydroxy Esters via Enantioselective
 Hydrogen-Mediated C-C Coupling: Regiocontrolled
 Reactions of Silyl-Substituted 1,3-Diynes
 AUTHOR(S): Cho, Chang-Woo; Krische, Michael J.
 CORPORATE SOURCE: Department of Chemistry and Biochemistry, University
 of Texas at Austin, Austin, TX, 78712, USA
 SOURCE: Organic Letters (2006), 8(17), 3873-3876
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 145:335661
 AB Rhodium-catalyzed asym. reductive coupling of Et glyoxalate and 1,3-diynes
 in the presence of mol. hydrogen afforded α -hydroxy- β,γ -
 enynoates with high regio- and enantioselectivity. Reaction of
 R1C.tplbond.CC.tplbond.CR3 with OHCCOOR2 and H2 in the presence of
 Rh-(R)-Cl,MeO-BIPHEP [(1R)-5,5'-dichloro-6,6'-dimethoxy-1,1'-biphenyl-2,2'-
 bis(diphenylphosphine)] gave (2R)-R3C.tplbond.CCH:CR1CH(OH)COOR2 (1c, R1 =
 R3 = Ph, R2 = Et; 4c-9c, R1 = Me3Si, Me2tBuSi; R2 = Et; R3 = Ph, Me,
 cyclopropylmethyl, Me2tBuSiOCH2) with alkyne regioselectivity of >99% and
 ee values of 89-94%. Notably, for trialkylsilyl-substituted 1,3-diynes,
 C-C coupling occurs exclusively at the carbon atom bearing silyl group.
 π -Back-bonding from low valent rhodium as described by the
 Dewar-Chatt-Duncanson model appears to direct the regiochem. of C-C
 coupling, as corroborated by calcns. of the diyne LUMO coeffs.
 IT 185913-97-7, (R)-Cl,MeO-BIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of chiral α -hydroxy- β,γ -enynoates by
 rhodium-catalyzed asym. reductive regioselective coupling of 1,3-diynes
 with α -oxo esters and dihydrogen)
 RN 185913-97-7 CAPLUS
 CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
 diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 28 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:699682 CAPLUS
 DOCUMENT NUMBER: 145:167551
 TITLE: Process for producing optically active
 β -hydroxy- α -aminocarboxylic acid
 derivatives
 INVENTOR(S): Hamada, Yasumasa; Makino, Kazuishi

PATENT ASSIGNEE(S): Nissan Chemical Industries, Ltd., Japan
 SOURCE: PCT Int. Appl., 40 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006075651	A1	20060720	WO 2006-JP300275	20060112
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: JP 2005-5366 A 20050112
 OTHER SOURCE(S): MARPAT 145:167551
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

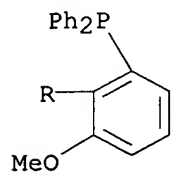
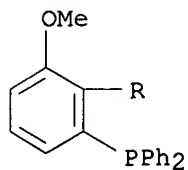
AB Optically active β -hydroxy- α -aminocarboxylic acid derivs. represented by the formula (I) or (II) [R1 = each (un)substituted C1-20 alkyl or C4-12 aromatic group; R2 = each (un)substituted C1-20 alkyl or C4-12 aromatic group] are prepared by catalytic asym. hydrogenation reaction of α -aminoacylacetic ester compds. represented by the formula $R1COCH(NH_2)CO_2R_2$ (R1, R2 = same as above) in the presence of an acid and a rhodium complex catalyst having as a ligand an optically active compound represented by the formula [III or IV; R3, R4 = (un)substituted Ph, C1-7 alkyl, 2-furyl] or [V; R6 = each (un)substituted Ph or naphthyl, cyclopentyl, cyclohexyl; R7 = Me, MeO; R8 = H, Me, MeO, Cl; R9 = H, Me, MeO, dimethylamino, diethylamino] wherein the hydrogenation is conducted in the presence of an acetic acid salt. This process efficiently produces the anti isomer of an optically active β -hydroxy- α -aminocarboxylic acid derivs. useful as intermediates for medicines/agricultural chems. Thus, 50 mg 2-amino-3-oxo-3-phenylpropanoic acid Me ester hydrochloride (preparation given) was hydrogenated in the presence of $[Rh(nbd)_2]Bf_4$ (nbd = norbornadiene), 4.7 mg (R)-(-)-1-[(S)-2-(diphenylphosphino)ferrocenyl]ethyl-di-tert-butylphosphine, and 17.9 mg AcONa in a mixture of 1 mL CH_2Cl_2 and 1.1 mL AcOH at 50 atm hydrogen pressure at 23° for 12 h followed by N-tert-butoxycarbonylation with di-tert-Bu dicarbonate in the presence of $NaHCO_3$ in aqueous dioxane gave 70% (2S,3S)-2-(tert-butoxycarbonylamino)-3-hydroxy-3-phenylpropanoic acid Me ester (VI) (75.2% ee and syn/anti isomer ratio of >99:5) as compared to the syn/anti isomer ratio of 56:44 when the hydrogenation was carried out without AcONa.

IT 133545-17-2, (S)-MeO-BIPHEP 133545-19-4
 133545-20-7 172617-14-0
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of optically active β -hydroxy- α -aminocarboxylic acid derivs. by asym. hydrogenation of α -amino- β -keto carboxylic

acid esters)

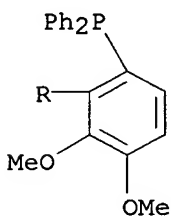
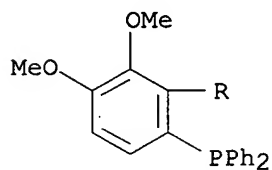
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



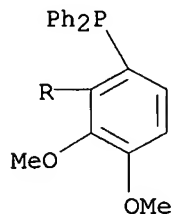
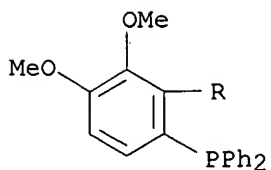
RN 133545-19-4 CAPLUS

CN Phosphine, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



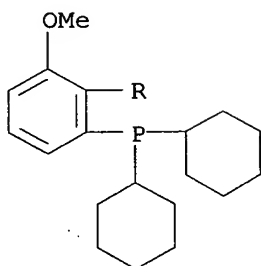
RN 133545-20-7 CAPLUS

CN Phosphine, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

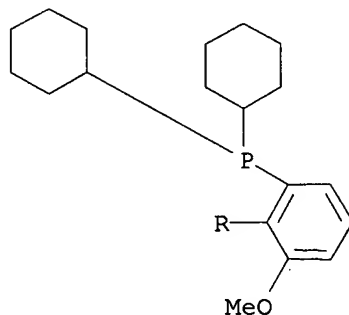


RN 172617-14-0 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclohexyl-,
 (R)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



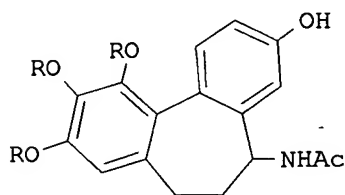
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 29 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:627602 CAPLUS
 DOCUMENT NUMBER: 145:103874
 TITLE: Chemical processes for the preparation of a colchinol derivative and intermediates
 INVENTOR(S): Broady, Simon Daniel; Martin, David Michael Glanville; Lennon, Ian Campbell; Ramsden, James Andrew; Muir,

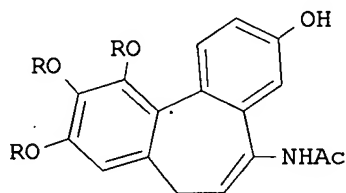
James Campbell
 PATENT ASSIGNEE(S): Astrazeneca AB, Swed.; Astrazeneca UK Limited
 SOURCE: PCT Int. Appl., 53 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006067412	A1	20060629	WO 2005-GB4934	20051219
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

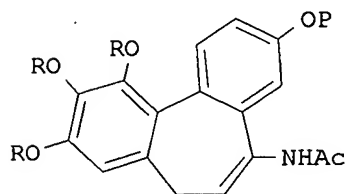
PRIORITY APPLN. INFO.: GB 2004-28101 A 20041223
 OTHER SOURCE(S): CASREACT 145:103874; MARPAT 145:103874
 GI



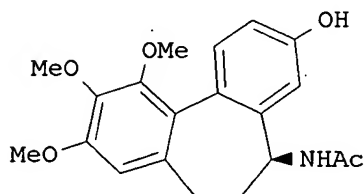
I



II



III



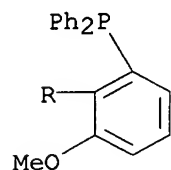
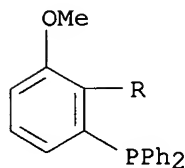
IV

AB A process for the preparation of a colchicinol derivative I [R = C1-6-alkyl, CH₂Ph,

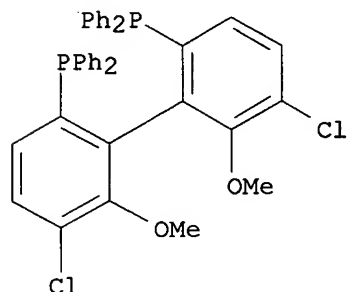
C(:O)-(C1-6-alkyl), or two RO groups together = C1-4-alkylenedioxy group; Ac is acetyl], by reduction of the corresponding enamide II. Colchicinol derivs. with high enantiomeric purity are obtained by hydrogenation in the presence of a transition metal catalyst, particularly a catalyst selected from a rhodium complex, a ruthenium complex or an iridium complex. Novel compds. III [R = R = C1-6-alkyl, CH₂Ph, C(:O)-(C1-6-alkyl), or two RO

groups together = C1-4-alkylenedioxy group; P = H, suitable hydroxy protecting group] are also described. Thus, (S)-N-acetylcolchinel (IV) was prepared in 99% yield (91.6% e.e.) from enamide III [R = Me, P = P(:O)(OH)2] via hydrogenation with [(S)-iPrFerroTANE]Ru(Methallyl)2 in MeOH.

IT 133545-16-1, (R)-MeOBIPHEP 185913-97-7, (R)-ClMeOBIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (chiral ligands for hydrogenation catalysts; chemical processes for the preparation of a colchinel derivative and intermediates via catalytic hydrogenation)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



RN 185913-97-7 CAPLUS
 CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



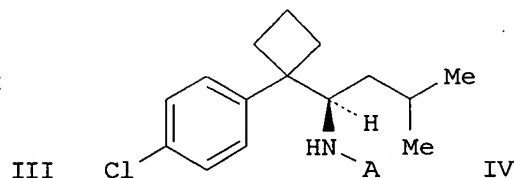
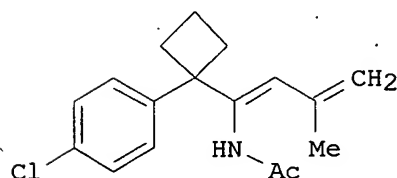
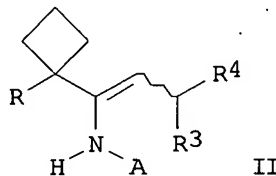
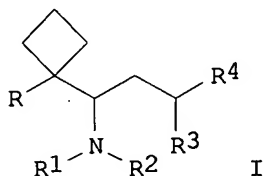
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 30 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:627129 CAPLUS
 DOCUMENT NUMBER: 145:103370
 TITLE: Enantioselective synthesis of a sterically hindered amine
 INVENTOR(S): Berens, Ulrich; Malan, Christophe; Kirner, Hans Juerg
 PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.
 SOURCE: PCT Int. Appl., 33 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006067060	A2	20060629	WO 2005-EP56678	20051212
WO 2006067060	A3	20060824		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: EP 2004-106820 A 20041222
OTHER SOURCE(S): MARPAT 145:103370
GI



AB (α -Cyclobutylalkyl)amines of the formula (I; R = Ph optionally substituted by Cl, Br, Cl-4 alkyl, or CF₃; R₁ = H, Me, Et; R₂ = H, Me, acyl; R₃ = H, Me; R₄ = Me or :CH₂) may be obtained in high enantiopurity by asym. hydrogenation of a (α -cyclobutylalkenyl)amide of the formula (II; R-R₄ = same as above; A = acyl) in the presence of a chiral rhodium or ruthenium catalyst wherein a residue R₁ as Me or Et and/or R₂ as H or Me may subsequently be introduced without racemization by deacylation and optional alkylation. Thus, 20.0 g N-[(Z)-1-[1-(4-Chlorophenyl)cyclobutyl]-3-methylbuta-1,3-dienyl]acetamide (III) was hydrogenated in the presence of [Ru-Cl₂-(p-cymene)₂] (42.3 mg) and (R)-MeOBiphep (80.4 mg) in 20 mL ethanol in an autoclave at hydrogen pressure (10 bar) and temperature 50° for 26 h to give 19.9 g N-[(R)-1-[1-(4-Chlorophenyl)cyclobutyl]-3-methylbutan-1-yl]acetamide (IV; A = Ac) (98.5% ee). IV (A = Ac) (1.0 g) was heated in 37% aqueous HCl solution in an autoclave at 180° for 9 h to give 725 mg N-[(R)-1-[1-(4-Chlorophenyl)cyclobutyl]-3-methylbutan-1-yl]amine (N,N-didesmethylsibutramine) hydrochloride IV.HCl (A = H) (77.9% yield, 95.7% ee).

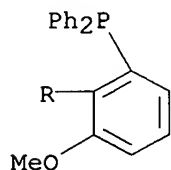
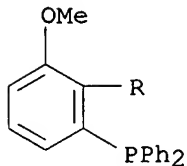
IT 133545-16-1, (R)-MeOBiphep

RL: CAT (Catalyst use); USES (Uses)

(preparation of sterically hindered (α -cyclobutylalkyl)amines by asym. hydrogenation of (α -cyclobutylalkenyl)amides chiral rhodium or ruthenium catalyst)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



L3 ANSWER 31 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN.

ACCESSION NUMBER: 2006:600169 CAPLUS

DOCUMENT NUMBER: 145:249358

TITLE: Enantioselective C-C Bond Cleavage Creating Chiral Quaternary Carbon Centers

AUTHOR(S): Matsuda, Takanori; Shigeno, Masanori; Makino, Masaomi; Murakami, Masahiro

CORPORATE SOURCE: Department of Synthetic Chemistry & Biological Chemistry, Kyoto University, Katsura, Kyoto, 615-8510, Japan

SOURCE: Organic Letters (2006), 8(15), 3379-3381
CODEN: ORLEF7; ISSN: 1523-7060

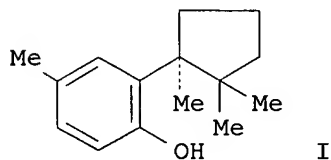
PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:249358

GI



AB A chiral all-carbon benzylic quaternary carbon center was created by the asym. intramol. addition/ring-opening reaction of a boryl-substituted cyclobutanone, which involved enantioselective β -carbon elimination from a sym. rhodium cyclobutanolate. The asym. reaction was successfully applied to a synthesis of sesquiterpene, (-)- α -herbertenol (I).

IT 133545-16-1

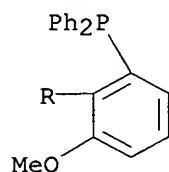
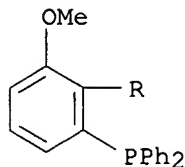
RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of the sesquiterpene (-)- α -herbertenol via asym.

intramol. addition/ring-opening reaction of a boryl-substituted cyclobutanone, which involves enantioselective β -carbon elimination from a sym. rhodium cyclobutanolate.)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 32 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:593396 CAPLUS

DOCUMENT NUMBER: 145:210696

TITLE: Applications of Asymmetric Hydrosilylations Mediated by Catalytic (DTBM-SEGPHOS)CuH

AUTHOR(S): Lipshutz, Bruce H.; Lower, Asher; Kucejko, Robert J.; Noson, Kevin

CORPORATE SOURCE: Department of Chemistry Biochemistry, University of California, Santa Barbara, CA, 93106, USA

SOURCE: Organic Letters (2006), 8(14), 2969-2972
CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:210696

AB Several aryl ketones R₁COR₂ (R₁ = Ph, 3-F₃CC₆H₄, 2,4-Cl₂C₆H₃, 2-thiazolyl, etc.; R₂ = Me, ClCH₂CH₂, PhCH₂, etc.), useful as precursors in the synthesis of known physiol. active compds., have been reduced to the corresponding nonracemic alcs. The previously reported combination of a catalytic quantity of (R)-(-)-DTBM-SEGPHOS-ligated CuH and stoichiometric polymethylhydrosiloxane is shown to be very effective in these asym. hydrosilylations.

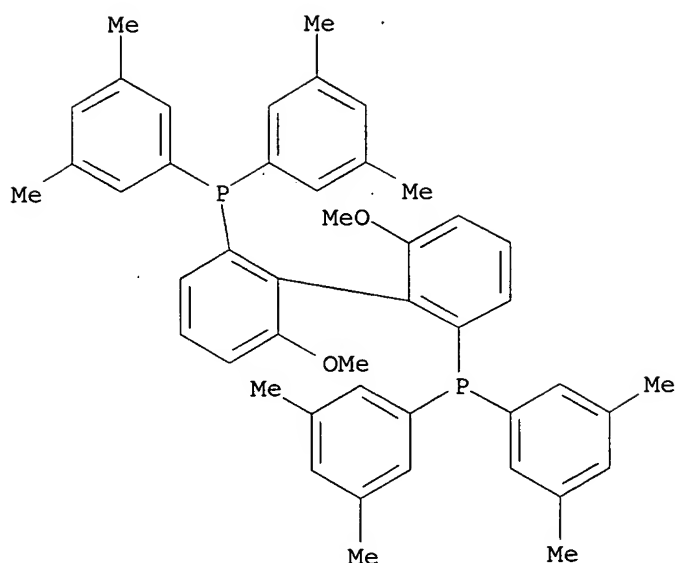
IT 394248-45-4

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of secondary alcs. as precursors to physiol. active compds. via copper-diphosphine-catalyzed enantioselective hydrosilylation of aryl and heteroaryl ketones)

RN 394248-45-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 33 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:433679 CAPLUS

DOCUMENT NUMBER: 145:82847

TITLE: Use of ¹H NMR chemical shifts to determine the absolute configuration and enantiomeric purity for enantiomers of 3,3'-disubstituted-MeO-BIPHEP derivatives

AUTHOR(S): Gorobets, Evgueni; Parvez, Masood; Wheatley, Bronwen M. M.; Keay, Brian A.

CORPORATE SOURCE: Department of Chemistry, University of Calgary, Calgary, AB, T2N 1N4, Can.

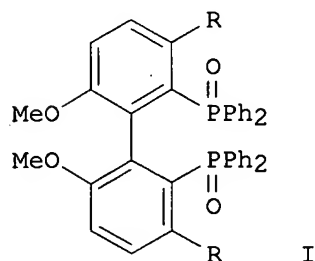
SOURCE: Canadian Journal of Chemistry (2006), 84(2), 93-98
CODEN: CJCHAG; ISSN: 0008-4042

PUBLISHER: National Research Council of Canada

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB The absolute configuration of a series of 3,3'-disubstituted-MeO-BIPHEP derivs. (I; R= H, MeO, i-PrO, o-t-Bu, OPiv, Otolyl, i-Pr, Ph, mesityl) can be determined by the ¹H NMR chemical shift of the methoxyl group when the 3,3'-disubstituted-MeO-BIPHEP derivative is mixed with (-)-(2R,3R)-dibenzoyltartaric acid ((-)-DBTA) (1:2) and its NMR spectrum is run in CDCl₃. The chemical shift of the methoxyl group in the Sax enantiomer always

occurred at higher field than the corresponding Rax enantiomer.
Integration of the corresponding methoxyl signals provides the
enantiomeric purity of any mixts.

IT 133577-82-9 133577-84-1

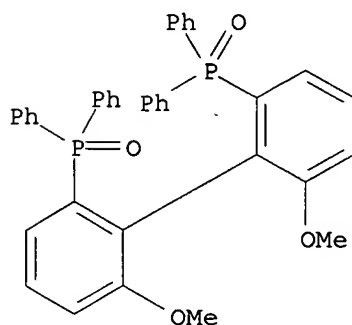
RL: PRP (Properties)

(use of 1H NMR chemical shifts to determine absolute configuration and
enantiomeric

purity for enantiomers of 3,3'-disubstituted-MeO-BIPHEP derivs.)

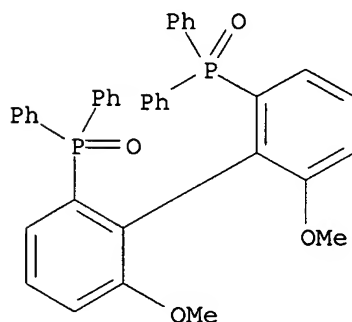
RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-,
(1R)- (9CI) (CA INDEX NAME)



RN 133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



IT 894100-06-2P 894100-13-1P

RL: PRP (Properties); PUR (Purification or recovery); SPN (Synthetic
preparation); PREP (Preparation)

(use of 1H NMR chemical shifts to determine absolute configuration and
enantiomeric

purity for enantiomers of 3,3'-disubstituted-MeO-BIPHEP derivs.)

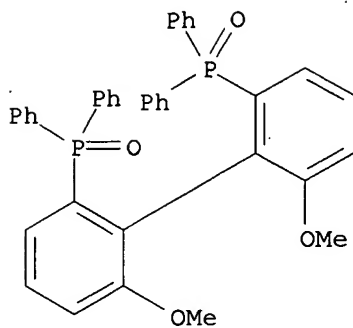
RN 894100-06-2 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, (2R,3R)-, compd. with
(1R)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide]
(2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-82-9

CMF C38 H32 O4 P2

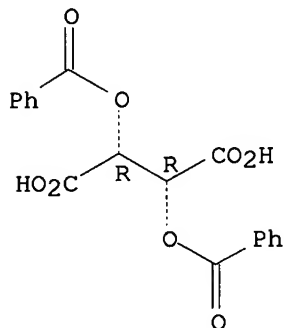


CM 2

CRN 2743-38-6

CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).



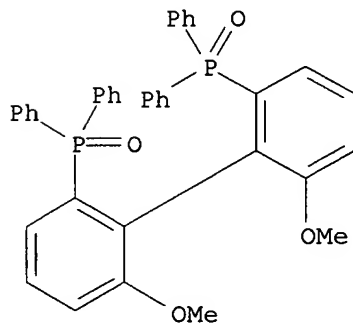
RN 894100-13-1 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, (2R,3R)-, compd. with
 [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenylphosphine oxide]
 (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-84-1

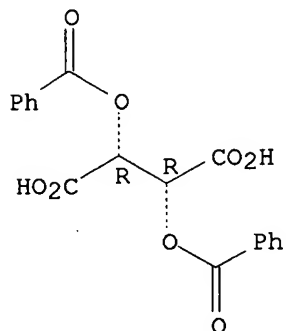
CMF C38 H32 O4 P2



CM 2

CRN 2743-38-6
CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).



IT 133545-15-0

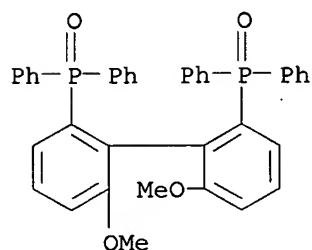
RL: RCT (Reactant); RACT (Reactant or reagent)

(use of 1H NMR chemical shifts to determine absolute configuration and enantiomeric

purity for enantiomers of 3,3'-disubstituted-MeO-BIPHEP derivs.)

RN 133545-15-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-
(9CI) (CA INDEX NAME)



IT 133545-16-1

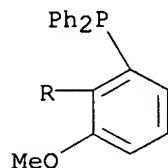
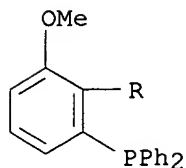
RL: RGT (Reagent); RACT (Reactant or reagent)

(use of 1H NMR chemical shifts to determine absolute configuration and enantiomeric

purity for enantiomers of 3,3'-disubstituted-MeO-BIPHEP derivs.)

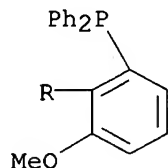
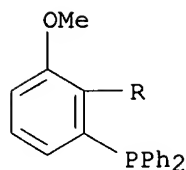
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 34 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:354249 CAPLUS
 DOCUMENT NUMBER: 145:45906
 TITLE: Asymmetric hydrogenation of quinolines and isoquinolines activated by chloroformates
 AUTHOR(S): Lu, Sheng-Mei; Wang, You-Qing; Han, Xiu-Wen; Zhou, Yong-Gui
 CORPORATE SOURCE: State Key Laboratory of Catalysis Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China
 SOURCE: Angewandte Chemie, International Edition (2006), 45(14), 2260-2263
 CODEN: ACIEF5; ISSN: 1433-7851
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 145:45906
 AB Optically active tetrahydroquinolines and tetrahydroisoquinolines can be obtained by the asym. hydrogenation of quinolines and isoquinolines with chloroformates as the activating reagent (e.g., ClCO2Bn). The method has been applied to the asym. synthesis of several naturally occurring alkaloids.
 IT 133545-16-1, (R)-MeO-biphep
 RL: CAT (Catalyst use); USES (Uses)
 (enantioselective iridium-catalyzed hydrogenation of quinolines and isoquinolines using chloroformates as activating agents)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 35 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:328224 CAPLUS
 DOCUMENT NUMBER: 145:62371
 TITLE: A new class of versatile chiral-bridged atropisomeric diphosphine ligands: remarkably efficient ligand syntheses and their applications in highly enantioselective hydrogenation reactions
 AUTHOR(S): Qiu, Liqin; Kwong, Fuk Yee; Wu, Jing; Lam, Wai Har; Chan, Shusun; Yu, Wing-Yiu; Li, Yue-Ming; Guo, Rongwei; Zhou, Zhongyuan; Chan, Albert S. C.
 CORPORATE SOURCE: Open Laboratory of Chirrotechnology of the Institute of Molecular Technology for Drug Discovery and Synthesis and Department of Applied Biology and Chemical Technology, Hong Kong Polytechnic University, Hong Kong, Hong Kong
 SOURCE: Journal of the American Chemical Society (2006), 128(17), 5955-5965
 CODEN: JACSAT; ISSN: 0002-7863
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A series of chiral diphosphine ligands denoted as PQ-Phos (I, II, and III; $n = 0, 1, 2$) was prepared by atropdiastereoselective Ullmann coupling and ring-closure reactions. The Ullmann coupling reaction of the biaryl diphosphine dioxides (IV; $n = \text{same as above}$) is featured by highly efficient central-to-axial chirality transfer with diastereomeric excess >99%. This substrate-directed diastereomeric biaryl coupling reaction is unprecedented for the preparation of chiral diphosphine dioxides, and our method precludes the tedious resolution procedures usually required for preparing enantiomerically pure diphosphine ligands. The effect of chiral recognition was also revealed in a relevant asym. ring-closure reaction of (S)- or (R)-HO-BIPHEPO (V) or (VI) with chiral alkanediol dimesylate or ditosylate (VII; $R = \text{Ms}$, $n = 0$; $R = \text{Ts}$, $n = 1$ or 2). The chiral tether bridging the two aryl units creates a conformationally rigid scaffold essential for enantiofacial differentiation; fine-tuning of the ligand scaffold (e.g., dihedral angles) can be achieved by varying the chain

length of the chiral tether. The enantiomerically pure Ru- and Ir-PQ-Phos complexes have been prepared and applied to the catalytic enantioselective hydrogenations of α - and β -ketoesters (C:O bond reduction) of formula $R_1CO_2R_2$ ($R_1 = \text{Me or Ph}$, $R_2 = \text{Me}$; $R_1 = \text{Me}$, iso-Pr , Ph , or PhCH_2CH_2) and $R_1COCHR_2CO_2R_3$ ($R_1 = \text{Me}$, $R_2 = \text{H}$, $R_3 = \text{Me}$, Et , or CH_2Ph ; $R_1 = \text{ClCH}_2$ or Ph , $R_2 = \text{H}$, $R_3 = \text{Et}$; $R_1 = \text{Ph}$, $R_2 = \text{Cl}$, $R_3 = \text{Et}$) to chiral α - or β -hydroxy esters of formula $R_1\text{CH}(\text{OH})\text{CO}_2R_2$ and $R_1\text{CH}(\text{OH})\text{CHR}_2\text{CO}_2R_3$, 2-(6'-methoxy-2'-naphthyl)propenoic acid, alkyl-substituted β -dehydroamino acids (C:C bond reduction) of formula $R_2O_2\text{CCH:C}(\text{R}_1)\text{NHAc}$ ($R_1 = \text{Me}$, Et , iso-Pr , or tert-Bu , $R_2 = \text{me}$; $R_1 = \text{Me}$ or n-Pr , $R_2 = \text{Et}$) to chiral β -amino acid esters of formula $R_2O_2\text{CCH}_2\text{CHC}(\text{R}_1)\text{NHAc}$, and N-heteroarom. compds. (C:N bond reduction) (VIII; $R_1 = \text{Me}$, $R_2 = \text{Me}$, H , MeO ; $R_1 = \text{Ph}$, $R_2 = \text{H}$), (IX), and (X) to chiral heterocyclic compds. (XI), (XII), and (XIII). An excellent level of enantioselection (up to 99.9% ee) has been attained for the catalytic reactions. In addition, the significant ligand dihedral angle effects on the Ir-catalyzed asym. hydrogenation of N-heteroarom. compds. were also revealed.

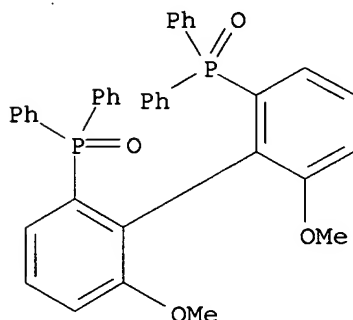
IT 133577-84-1DP, ruthenium complexes

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(preparation of versatile chiral-bridged atropisomeric diphosphine ligands by stereoselective ring-closure of (S)- or (R)-HO-BIPHEPO with chiral alkanediol dimesylate or ditosylate)

RN 133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



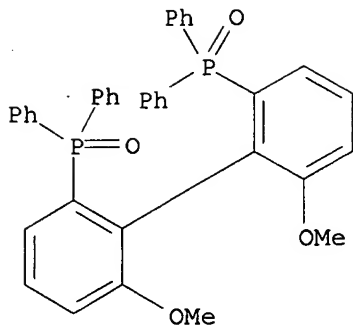
IT 133577-82-9, (R)-MeOBIPHEPO 133577-84-1, (S)-MeOBIPHEPO

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of versatile chiral-bridged atropisomeric diphosphine ligands by stereoselective ring-closure of (S)- or (R)-HO-BIPHEPO with chiral alkanediol dimesylate or ditosylate)

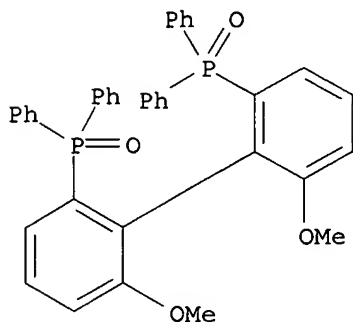
RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)]



RN 133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



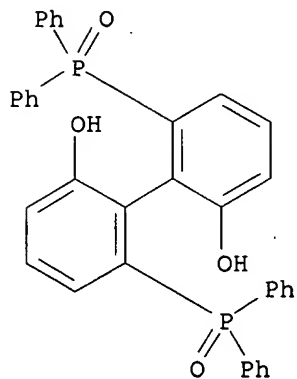
IT 524711-75-9P 679422-50-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of versatile chiral-bridged atropisomeric diphosphine ligands by stereoselective ring-closure of (S)- or (R)-HO-BIPHEPO with chiral alkanediol dimesylate or ditosylate)

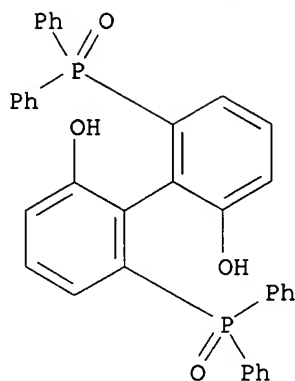
RN 524711-75-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA INDEX NAME)



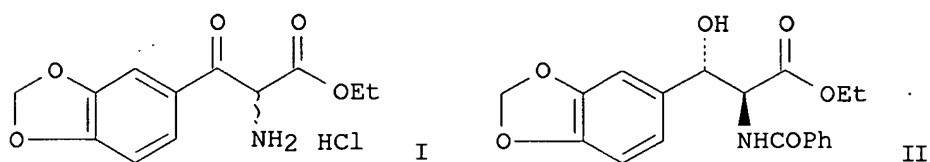
RN 679422-50-5 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 130 THERE ARE 130 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L3 ANSWER 36 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:315212 CAPLUS
 DOCUMENT NUMBER: 145:8411
 TITLE: Rhodium-catalyzed asymmetric hydrogenation through dynamic kinetic resolution: asymmetric synthesis of anti- β -hydroxy- α -amino acid esters
 AUTHOR(S): Makino, Kazuishi; Fujii, Takefumi; Hamada, Yasumasa
 CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Chiba University, Chiba, 263-8522, Japan
 SOURCE: Tetrahedron: Asymmetry (2006), 17(4), 481-485
 CODEN: TASYE3; ISSN: 0957-4166
 PUBLISHER: Elsevier B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 145:8411
 GI



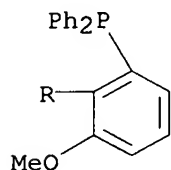
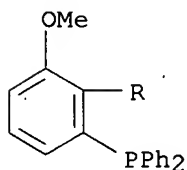
AB Rhodium-catalyzed asym. hydrogenation of α -amino- β -keto ester hydrochlorides through dynamic kinetic resolution is described. The hydrogenation proceeds with the catalyst derived from a Rh complex and a chiral ferrocenylphosphine under hydrogen in the presence of sodium acetate in acetic acid to afford anti- β -hydroxy- α -amino acid esters with 58-83% enantiomeric excess in a diastereomeric ratio of 92:8-97:3. For example, keto amino ester hydrochloride I was hydrogenated in presence of catalyst $[\text{Rh}(\text{nbd})_2]\text{BF}_4$ with chiral ligand [(R,S)-1-[bis(tert-butyl)phosphino]ethyl]-2-(diphenylphosphino)ferrocene at 23° in AcOH/AcONa, followed by reaction with benzoic acid anhydride, to give hydroxy amino ester II in 61% yield in a 97:3 anti:syn ratio.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(ligand for rhodium catalyst; preparation of hydroxy amino acid esters from their keto precursors via asym. hydrogenation with rhodium catalysts)

RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 37 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:277847 CAPLUS

DOCUMENT NUMBER: 146:295575

TITLE: Enabling ligand screening for palladium-catalyzed enantioselective aza-Michael addition reactions

AUTHOR(S): Phua, Pim Huat; White, Andrew J. P.; de Vries, Johannes G.; Hii, King Kuok

CORPORATE SOURCE: Department of Chemistry, Imperial College London, South Kensington, London, SW7 2AZ, UK

SOURCE: Advanced Synthesis & Catalysis (2006), 348(4 + 5), 587-592

CODEN: ASCAF7; ISSN: 1615-4150

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The bis(trifluoromethanesulfonate)palladium(II) dihydrate complex, Pd(OTf)₂·2 H₂O (I), is an active palladium(II) precursor for the generation of dicationic palladium(II) catalysts. Parallel ligand screening is carried out for the first time and twenty-four chiral ligands were evaluated for the asym. aza-Michael addition of aromatic amines to (1-oxo-2-alkenyl)carbamic acid tert-Bu esters and N-[(2E)-1-oxo-2-alkenyl]benzamide derivs. Enantioselectivity of >99% can be obtained. Catalytic precursors generated from I using this new protocol have been identified.

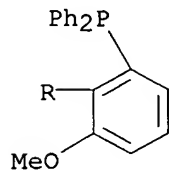
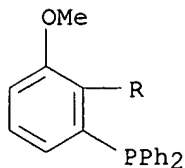
IT 133545-16-1, (R)-MeOBIPHEP 185913-97-7, (R)-ClMeOBIPHEP

RL: CAT (Catalyst use); USES (Uses)

(parallel ligand screening for stereoselective aza-Michael addition of aromatic amines to N-[(oxo)alkenyl]benzamide and N-(oxo)alkenyl]carbamate derivs. using in-situ-generated dicationic palladium(II) derivs. as catalysts)

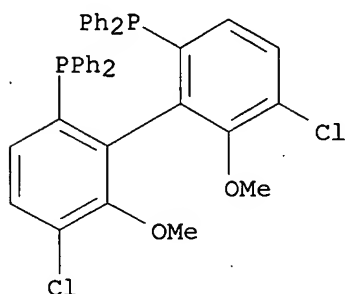
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 38 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:219844 CAPLUS

DOCUMENT NUMBER: 146:62793

TITLE: Improvement on the synthesis of chiral biphenyl diphosphine ligands

AUTHOR(S): Fang, Chun-Mei; Ma, Meng-Lin; Zheng, Xue-Li; Guo, Yu; Peng, Zong-Hai; Chen, Hua; Li, Xian-Jun

CORPORATE SOURCE: Key Laboratory of Green Chemistry and Technology of Ministry of Education, Institute of Homogeneous Catalysis, Department of Chemistry, Sichuan University, Chengdu, 610064, Peop. Rep. China

SOURCE: Youji Huaxue (2006), 26(2), 252-255

CODEN: YCHHDX; ISSN: 0253-2786

PUBLISHER: Youji Huaxue Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

OTHER SOURCE(S): CASREACT 146:62793

AB The chiral diphosphines, R- and S-(6,6'-dimethoxy)-2,2'-bis(diarylphosphino)-1,1'-biphenyl, (aryl = Ph, 4-C6H4OMe) have been prepared with six steps from com. available 3-bromoanisole by a concise synthetic route. This approach was also an efficient synthetic method for biphenyl diphosphines with different diarylphosphino groups.

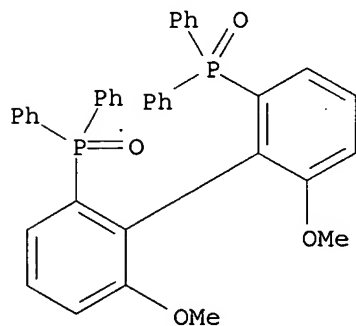
IT 133577-82-9P 133577-84-1P 145265-43-6P
145265-44-7P

RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of chiral biphenyl diphosphine ligands starting from
bromoanisole)

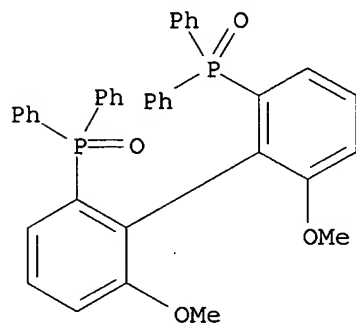
RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-,
(1R)- (9CI) (CA INDEX NAME)



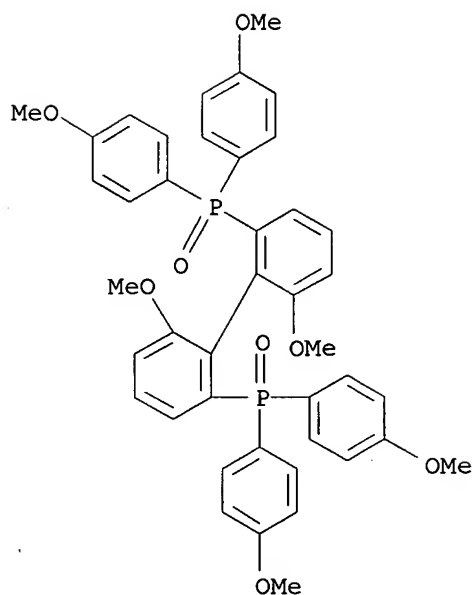
RN 133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



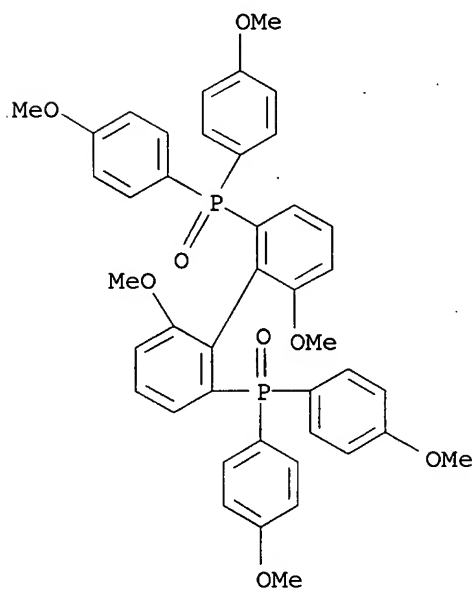
RN 145265-43-6 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-
methoxyphenyl)-, (R)- (9CI) (CA INDEX NAME)



RN 145265-44-7 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)-, (S)- (9CI) (CA INDEX NAME)

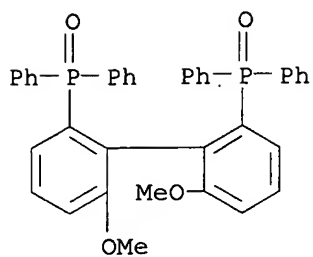


IT 133545-15-0P 145209-14-9P 145209-18-3P
145209-27-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of chiral biphenyl diphosphine ligands starting from bromoanisole)

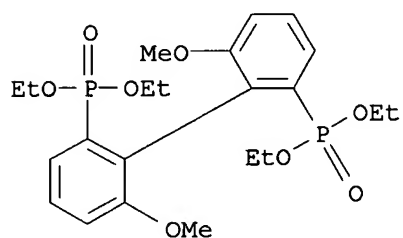
RN 133545-15-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



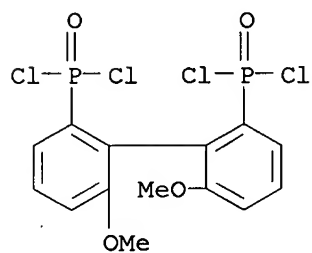
RN 145209-14-9 CAPLUS

CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraethyl ester (9CI) (CA INDEX NAME)



RN 145209-18-3 CAPLUS

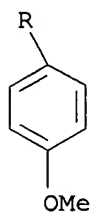
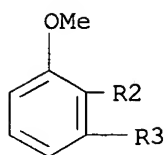
CN Phosphonic dichloride, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis- (9CI) (CA INDEX NAME)



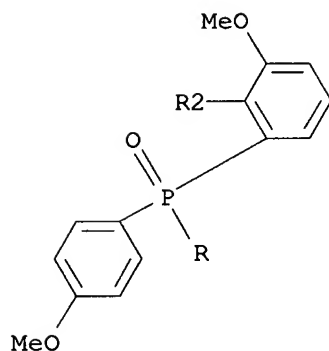
RN 145209-27-4 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

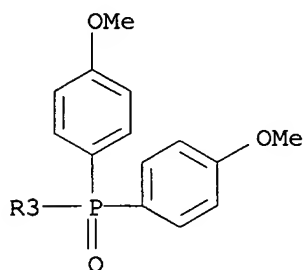
PAGE 1-A



PAGE 2-A



PAGE 3-A

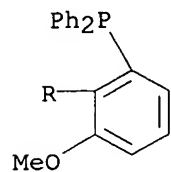
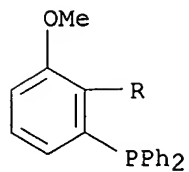


IT 133545-16-1P 133545-17-2P 145265-41-4P
145265-42-5P

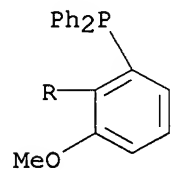
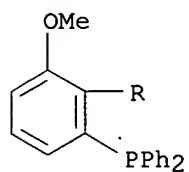
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of chiral biphenyl diphosphine ligands starting from
bromoanisole)

RN 133545-16-1 CAPLUS

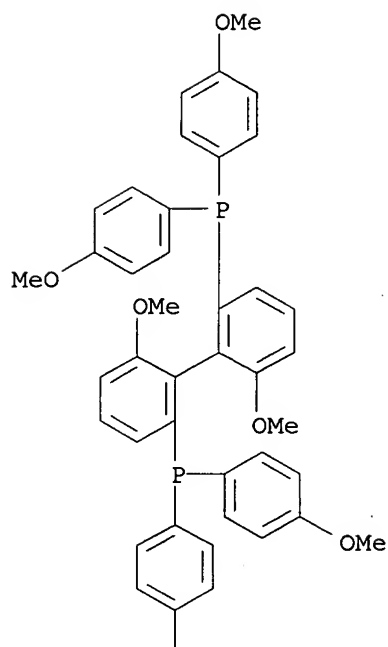
CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-
diphenyl- (CA INDEX NAME)



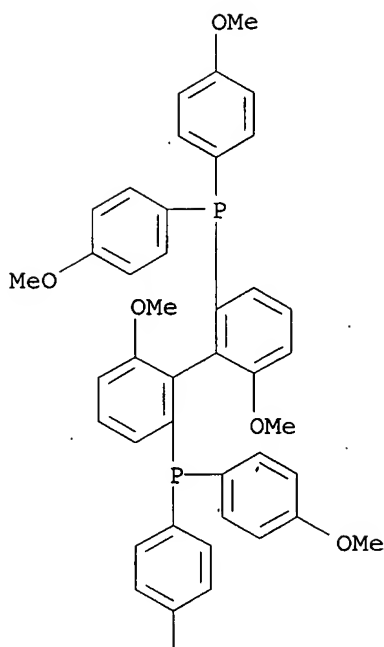
RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 145265-41-4 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)-, (R)- (9CI) (CA INDEX NAME)



RN 145265-42-5 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)]



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L3 ANSWER 39 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:208444 CAPLUS

DOCUMENT NUMBER: 144:450471

TITLE: Diastereospecific Intramolecular Ullmann Couplings:
Unique Chiral Auxiliary for the Preparation of
3,3'-Disubstituted MeO-BIPHEP Derivatives

AUTHOR(S): Gorobets, E.; McDonald, R.; Keay, B. A.

CORPORATE SOURCE: Department of Chemistry, University of Calgary,
Calgary, T2N 1N4, Can.

SOURCE: Organic Letters (2006), 8(7), 1483-1485
CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

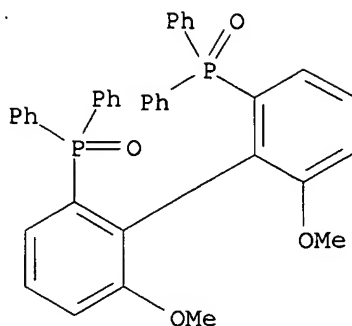
AB A chiral auxiliary is described that provides only one diastereomer during intramol. Ullmann couplings. Treatment of five Ullmann coupling precursors with Cu powder in DMF at 115 °C provides 2,2',3,3',6,6'-hexasubstituted 1,1'-biphenyls as single diastereomers in yields ranging from 66% to 91%.

IT 133577-84-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of 3,3'-disubstituted MeO-BIPHEP derivs. by diastereospecific intramol. Ullmann couplings using a unique chiral auxiliary)

RN 133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 40 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:198021 CAPLUS

DOCUMENT NUMBER: 144:432534

TITLE: Highly diastereo- and enantioselective copper-catalyzed domino reduction/aldol reaction of ketones with methyl acrylate

AUTHOR(S): Deschamp, Julia; Chuzel, Olivier; Hannedouche, Jerome; Riant, Olivier

CORPORATE SOURCE: Unite de chimie organique et medicinale, Universite catholique de Louvain, Louvain-la-Neuve, 1348, Belg.

SOURCE: Angewandte Chemie, International Edition (2006), 45(8), 1292-1297

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 144:432534

AB A new catalytic method was found for the construction of stereogenic quaternary carbon centers through a copper-catalyzed domino conjugated reduction/aldol reaction of Me acrylate with various alkyl aryl ketones. The proper choice of the chiral diphosphine ligand leads to high chemo-, diastereo-, and enantioselectivity.

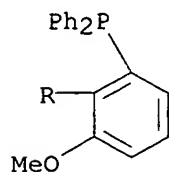
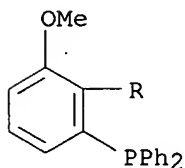
IT 133545-17-2 362634-28-4

RL: CAT (Catalyst use); USES (Uses)

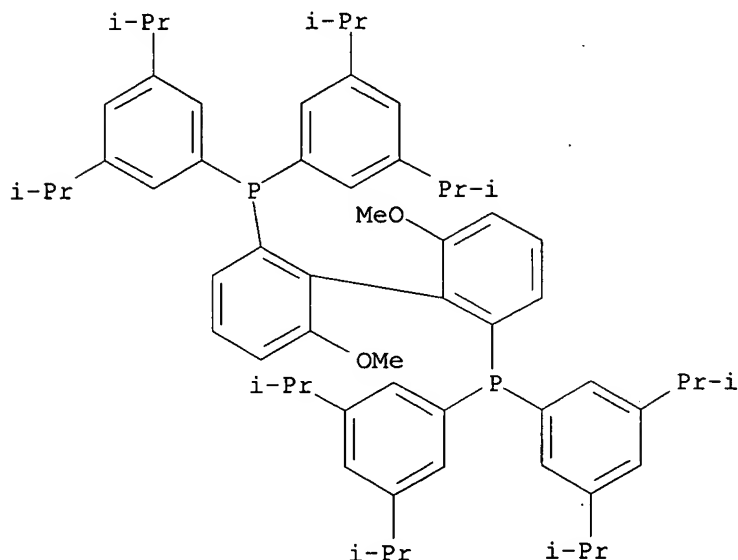
(stereoselective copper-catalyzed domino reduction/aldol reaction of ketones with Me acrylate)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 362634-28-4 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-bis(1-methylethyl)phenyl)-(9CI) (CA INDEX NAME)



REFERENCE COUNT: 119 THERE ARE 119 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 41 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:198011 CAPLUS

DOCUMENT NUMBER: 144:411933

TITLE: Copper-in-charcoal (Cu/C): heterogeneous, copper-catalyzed asymmetric hydrosilylations

AUTHOR(S): Lipshutz, Bruce H.; Frieman, Bryan A.; Tomaso, Anthony E., Jr.

CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of California, Santa Barbara, CA, 93106, USA

SOURCE: Angewandte Chemie, International Edition (2006), 45(8), 1259-1264

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 144:411933

AB Copper-in charcoal (Cu/C) is introduced as an easily prepared catalyst that is readily converted in situ into a nonracemically ligated form of copper hydride that effects asym. hydrosilylations.

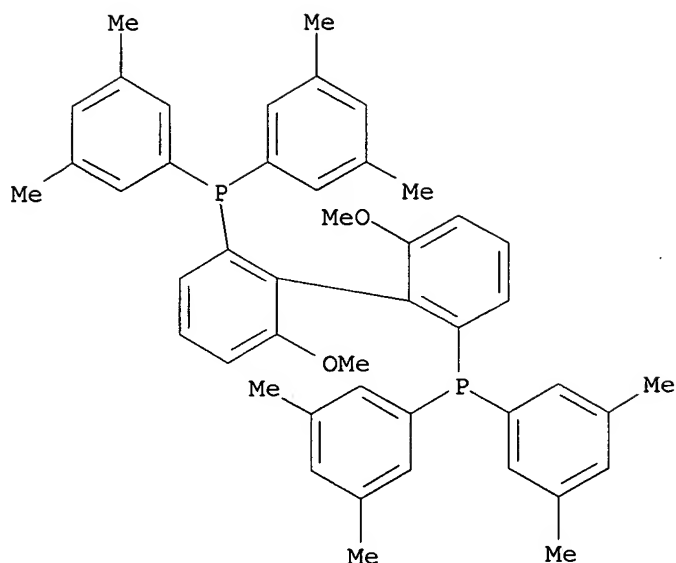
IT 394248-45-4

RL: CAT (Catalyst use); USES (Uses)

(copper-in-charcoal as heterogeneous catalyst in asym. hydrosilylations)

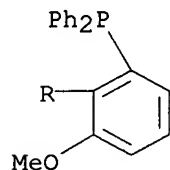
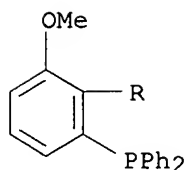
RN 394248-45-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)-(9CI) (CA INDEX NAME)



REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 42 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:188829 CAPLUS
 DOCUMENT NUMBER: 144:432637
 TITLE: Phosphine-catalyzed enantioselective [3+2] annulations of 2,3-butadienoates with imines
 AUTHOR(S): Jean, Ludovic; Marinetti, Angela
 CORPORATE SOURCE: Institut de Chimie des Substances Naturelles-CNRS UPR 2301, Gif-sur-Yvette, 91198, Fr.
 SOURCE: Tetrahedron Letters (2006), 47(13), 2141-2145
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 144:432637
 AB The systematic screening of chiral phosphines in the cycloaddn. reaction between 2,3-butadienoates and arylimines has led to the identification of fairly efficient catalysts. 2-Aryl-3-pyrrolines were obtained with enantiomeric excesses $\leq 64\%$. In one instance, the enantiomeric excess could be increased to 91% ee by combining the enantioselective cyclization reaction with a crystallization step.
 IT 133545-16-1, (R)-MeO-BIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (phosphine-catalyzed enantioselective [3+2] annulations of 2,3-butadienoates with imines)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 43 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:123945 CAPLUS

DOCUMENT NUMBER: 144:369746

TITLE: Rhodium-Catalyzed Asymmetric Synthesis of Indanones: Development of a New "Axially Chiral" Bisphosphine Ligand

AUTHOR(S): Shintani, Ryo; Yashio, Keiji; Nakamura, Tomoaki; Okamoto, Kazuhiro; Shimada, Toyoshi; Hayashi, Tamio
CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Kyoto University, Kyoto, 606-8502, Japan

SOURCE: Journal of the American Chemical Society (2006), 128(9), 2772-2773

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 144:369746

AB A rhodium-catalyzed asym. isomerization of racemic α -arylpropargyl alcs. to β -chiral indanones has been developed. High enantioselectivity has been realized by the use of a newly developed axially chiral bisphosphine ligand. This ligand is unique in the sense that its axial chirality is fixed to a single configuration upon complexation to a transition metal due to other chiral axes existing within the same mol.

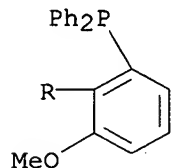
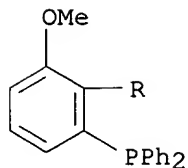
IT 133545-16-1, (R)-MeO-Biphep

RL: CAT (Catalyst use); USES (Uses)

(rhodium-catalyzed asym. synthesis of indanones using an axially chiral bisphosphine ligand)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 44 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:88172 CAPLUS

DOCUMENT NUMBER: 145:396761

TITLE: Dendritic BIPHEP: Synthesis and application in asymmetric hydrogenation of β -keto esters

AUTHOR(S): Deng, Guo-Jun; Li, Guo-Rui; Zhu, Ling-Yun; Zhou, Hai-Feng; He, Yan-Mei; Fan, Qing-Hua; Shuai, Zhi-Gang
CORPORATE SOURCE: Laboratory of Chemical Biology, Center for Molecular Science, Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China

SOURCE: Journal of Molecular Catalysis A: Chemical (2006), 244(1-2), 118-123

CODEN: JMCCF2; ISSN: 1381-1169

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of new chiral dendritic biphenyldiphosphine ligands were prepared and their applications in the Ru-catalyzed asym. hydrogenation of β -keto esters were investigated. Ruthenium catalysts containing these dendrimer ligands were effective in the hydrogenation of β -keto esters. The size of the dendritic wedges influenced the enantioselectivity significantly.

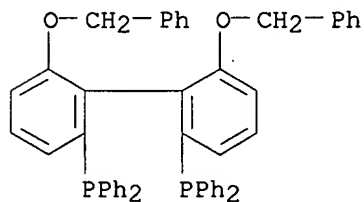
IT 151395-63-0P 911438-21-6P 911438-22-7P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(preparation of dendritic biphenyldiphosphine ligands for ruthenium-catalyzed asym. hydrogenation of β -keto esters)

RN 151395-63-0 CAPLUS

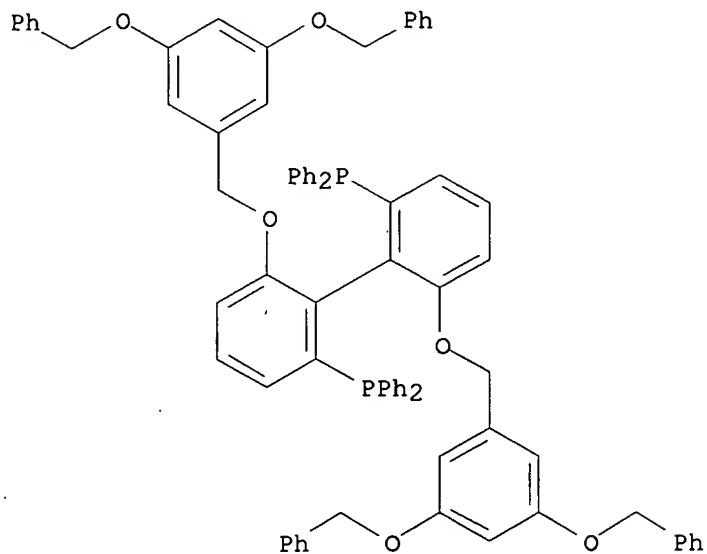
CN Phosphine, [(1R)-6,6'-bis(phenylmethoxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 911438-21-6 CAPLUS

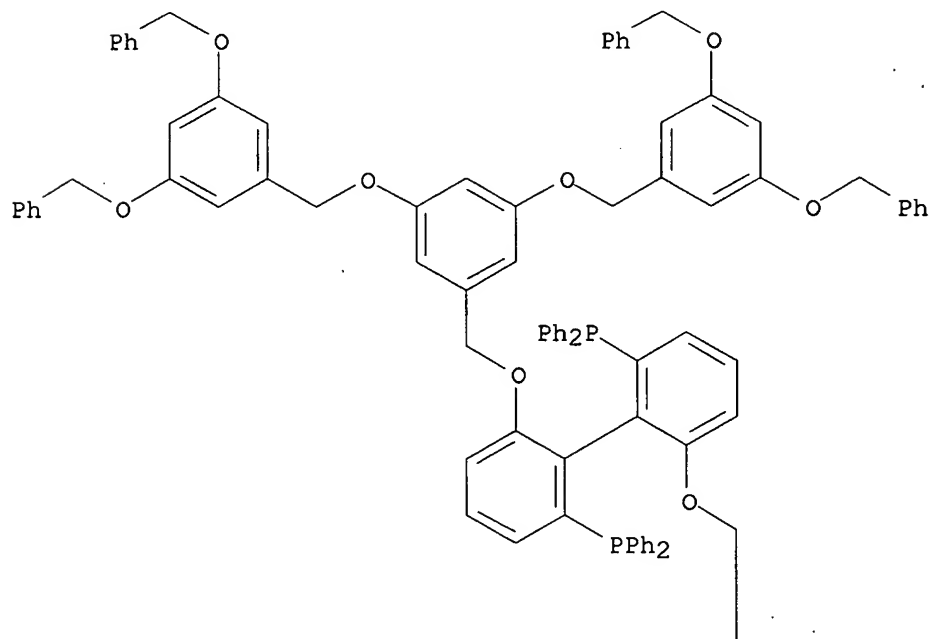
CN Phosphine, [(1R)-6,6'-bis[[3,5-bis(phenylmethoxy)phenyl]methoxy][1,1'-

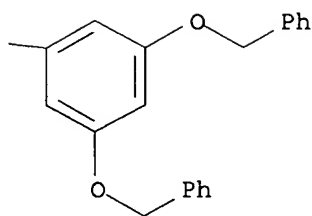
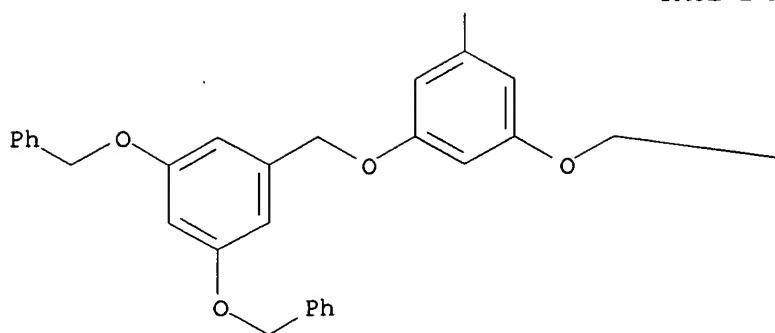
biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 911438-22-7 CAPLUS
 CN Phosphine, [(1R)-6,6'-bis[[3,5-bis[[3,5-bis(phenylmethoxy)phenyl]methoxy]phenyl]methoxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



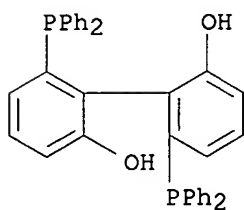


IT 151395-61-8

RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of dendritic biphenyldiphosphine ligands for
 ruthenium-catalyzed asym. hydrogenation of β -keto esters)

RN 151395-61-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX
 NAME)

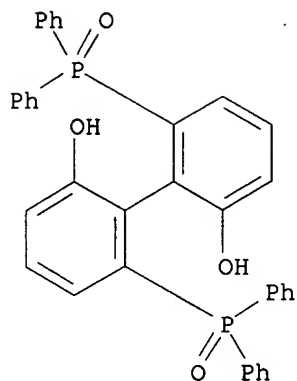


IT 524711-75-9P 911438-18-1P 911438-19-2P
 911438-20-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation of dendritic biphenyldiphosphine ligands for
 ruthenium-catalyzed asym. hydrogenation of β -keto esters)

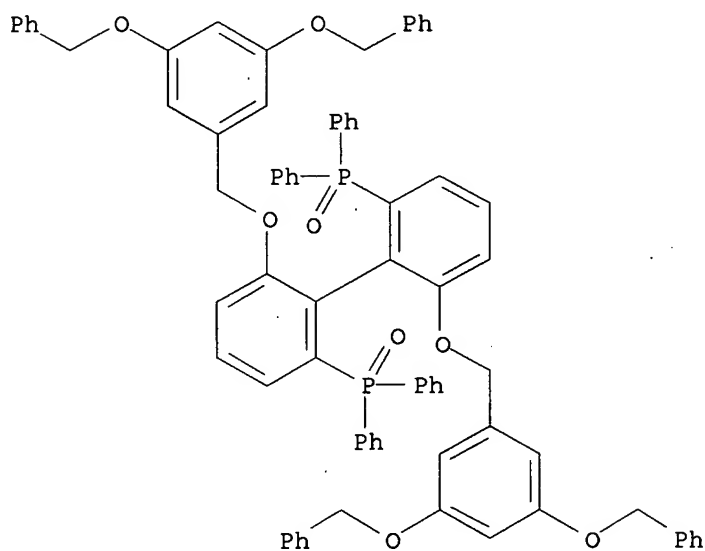
RN 524711-75-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA
 INDEX NAME)



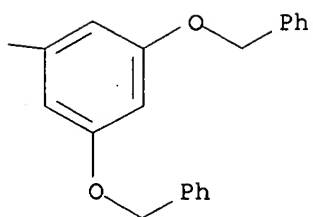
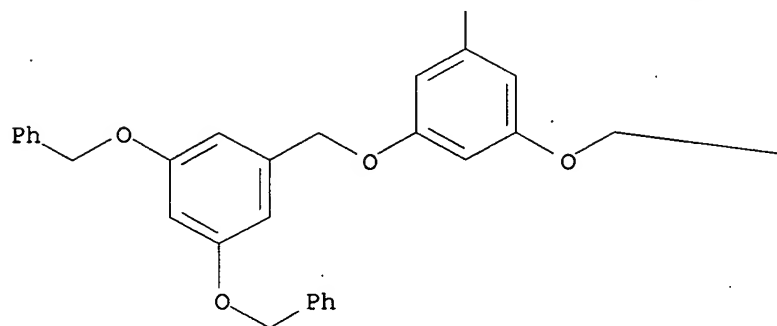
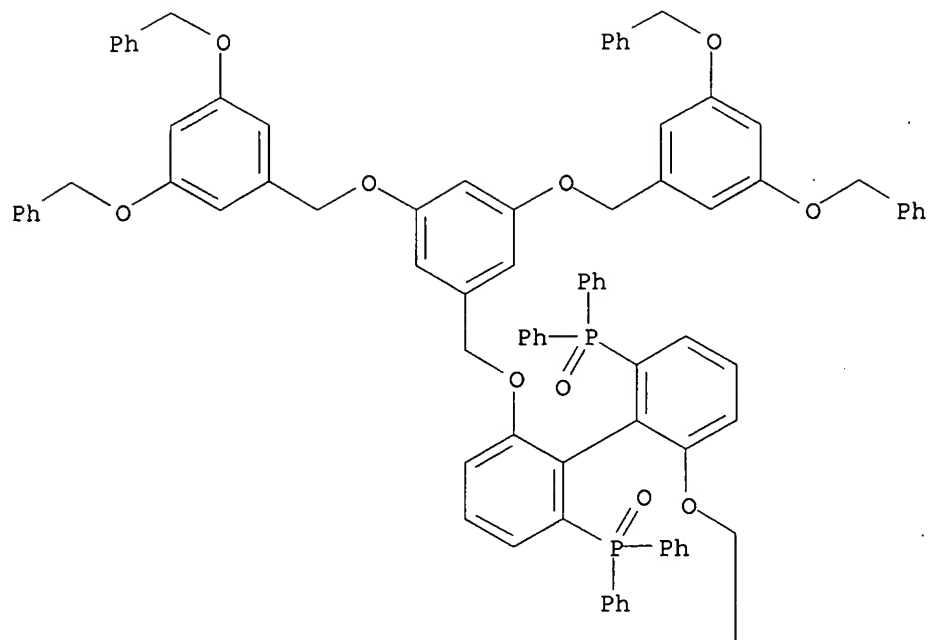
RN 911438-18-1 CAPLUS

CN Phosphine oxide, [(1R)-6,6'-bis[[3,5-bis(phenylmethoxy)phenyl]methoxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



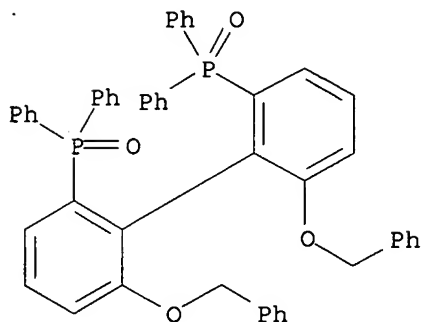
RN 911438-19-2 CAPLUS

CN Phosphine oxide, [(1R)-6,6'-bis[[3,5-bis[[3,5-bis(phenylmethoxy)phenyl]methoxy]phenyl]methoxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 911438-20-5 CAPLUS
 CN Phosphine oxide, [(1R)-6,6'-bis(phenylmethoxy)[1,1'-biphenyl]-2,2'-

diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 45 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:734 CAPLUS

DOCUMENT NUMBER: 144:233136

TITLE: A synthetic approach to macrocyclic, chiral phosphane derivatives with crown-ether-like structures

AUTHOR(S): Theil, Agnes; Hitce, Julien; Retailleau, Pascal; Marinetti, Angela

CORPORATE SOURCE: Institut de Chimie des Substances Naturelles CNRS UPR 2301, Gif-sur-Yvette, 91198, Fr.

SOURCE: European Journal of Organic Chemistry (2005), Volume Date 2006, (1), 154-161

CODEN: EJOCFK; ISSN: 1434-193X

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 144:233136

AB (S,S)-Bis(2-hydroxypropyl) (phenyl)phosphine oxide was prepared, either by ring-opening of (S)-propylene oxide with dilithio(phenyl)phosphine or by catalytic hydrogenation of bis(2-oxopropyl) (phenyl)phosphine oxide, promoted by Ru/(S)-MeO-BIPHEP. Catalytic hydrogenation also allowed the enantioselective synthesis of (R,R)-bis(2-phenyl-2-hydroxyethyl) (phenyl)phosphine oxide from the corresponding diketone. These bis(β -hydroxyalkyl)phosphine derivs. are suitable chiral starting materials for the synthesis of 1-phospha-10-aza-18-crown-6 derivs., the 1st examples of optically pure, crown-ether-like, P-containing macrocycles. One of them was characterized by x-ray diffraction study. Complexation of Na⁺ by the crown ether moiety of the macrocyclic ring was observed by ¹H NMR anal.

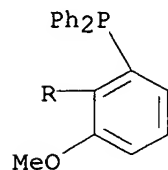
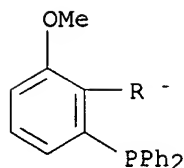
IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(synthetic approach to macrocyclic, chiral phosphine derivs. with crown-ether-like structures)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 66 THERE ARE 66 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 46 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:1346101 CAPLUS
 DOCUMENT NUMBER: 144:94331
 TITLE: Novel stable compositions of water and oxygen sensitive compounds and their method of preparation
 INVENTOR(S): Taber, Douglass F.; Li, Hui-Yin
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 12 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

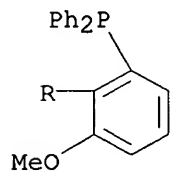
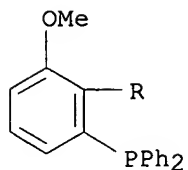
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005288257	A1	20051229	US 2005-166937	20050623
PRIORITY APPLN. INFO.:			US 2004-583054P	P 20040625
OTHER SOURCE(S): MARPAT 144:94331				

AB The present application described a new formulation for oxygen and/or water sensitive compds. with an inert material such as paraffin. The new formulation provides stability for the oxygen and/or water sensitive compds. in the air and can be handled easily. The new formulation of the present invention is useful as ligands and/or catalysts for preparation of pharmaceuticals, agrochem., other fine chems. and other synthetic compds.

IT 133545-16-1 133545-17-2 185913-97-7
 185913-98-8 398127-98-5, (R)-Methyl soniphos
 398128-03-5, (R)-Cyclohexyl soniphos 817629-55-3,
 (S)-Methyl soniphos 817629-56-4, (S)-Cyclohexyll soniphos
 RL: TEM (Technical or engineered material use); USES (Uses)
 (novel stable compns. of water and oxygen sensitive compds. and their method of preparation)

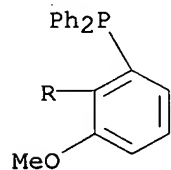
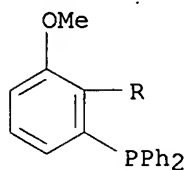
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)



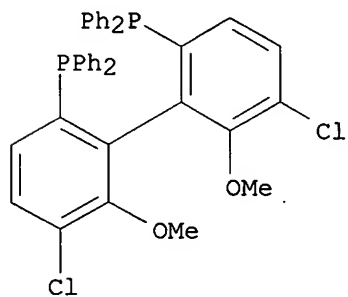
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



RN 185913-97-7 CAPLUS

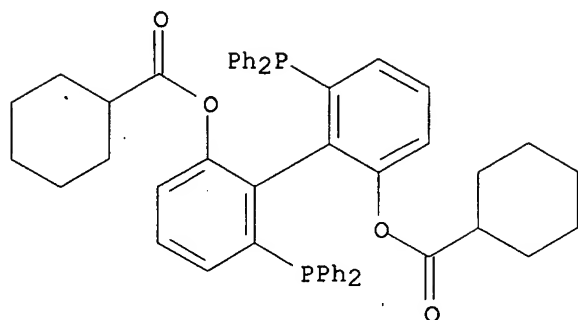
CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



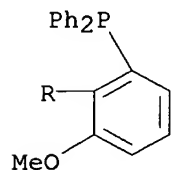
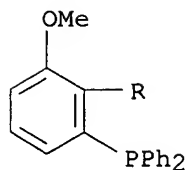
RN 185913-98-8 CAPLUS

CN Phosphine, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]

biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)

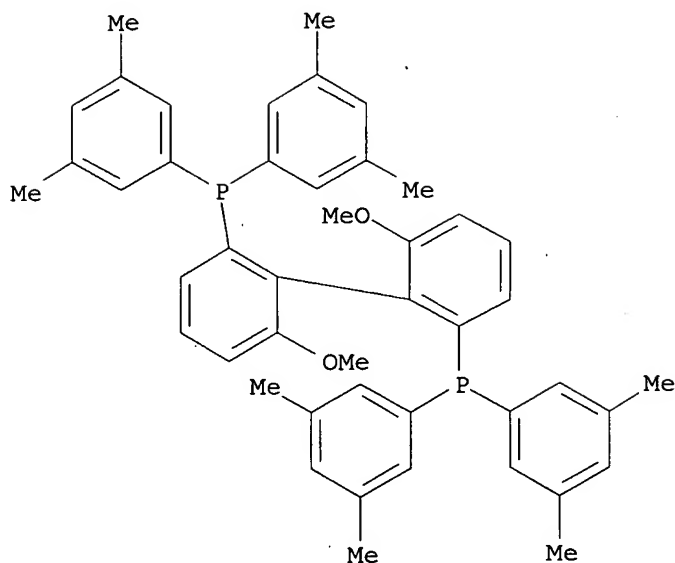


L3 ANSWER 47 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1257723 CAPLUS
DOCUMENT NUMBER: 144:171041
TITLE: Palladium-Catalyzed Asymmetric Amination and Imidation of 2,3-Allenyl Phosphates
AUTHOR(S): Imada, Yasushi; Nishida, Masayuki; Kutsuwa, Koji; Murahashi, Shunichi; Naota, Takeshi
CORPORATE SOURCE: Department of Chemistry, Graduate School of Engineering Science, Osaka University, Machikaneyama, Toyonaka, Osaka, 560-8531, Japan
SOURCE: Organic Letters (2005), 7(26), 5837-5839
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 144:171041
AB Asym. amination of 2,3-allenyl phosphates with nitrogen nucleophiles such as amines, hydroxylamines, and imides can be performed efficiently using a combination of zerovalent palladium complexes and SEGPHOS or MeOBIPHEP ligand, affording the corresponding optically active 1-aminated derivs. with enantiomeric excess of up to 97% ee. Thus, (R)-SEGPHOS/Pd₂(dba)₃·CHCl₃ reaction of t-BuCH:C:CHCH₂OP(O)(OEt)₂ with MeNHCH₂Ph in THF gave 90% t-BuCH:C:CHCH₂NMeCH₂Ph.
IT 133545-16-1
RL: CAT (Catalyst use); USES (Uses)
(preparation and palladium-catalyzed asym. amination and imidation of allenyl phosphates with amines, hydroxylamines, and imides)
RN 133545-16-1 CAPLUS
CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



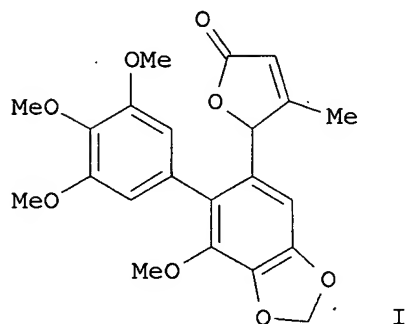
REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 48 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:1206561 CAPLUS
 DOCUMENT NUMBER: 144:88359
 TITLE: Thermally accelerated asymmetric hydrosilylations using ligated copper hydride
 AUTHOR(S): Lipshutz, Bruce H.; Frieman, Bryan A.; Unger, John B.; Nihan, Danielle M.
 CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of California, Santa Barbara, CA, 93106, USA
 SOURCE: Canadian Journal of Chemistry (2005), 83(6-7), 606-614
 CODEN: CJCHAG; ISSN: 0008-4042
 PUBLISHER: National Research Council of Canada
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 144:88359
 AB Exposure of a variety of prochiral substrates to [(R)-(-)-DTBM-SEGPBOS]CuH + PMHS under microwave or conventionally heated conditions reduces reaction times for these hydrosilylations from hours to minutes without significant erosion in ee in most cases. Thus, microwave assisted hydrosilylation of isophorone with poly(methylhydrosiloxane) at 60° for 60 min gave 100% (R)-3,3,5-trimethylcyclohexanone.
 IT 394248-45-4
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (thermally or microwave accelerated asym. hydrosilylations of prochiral substrates using ligated copper hydride)
 RN 394248-45-4 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)]



REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 49 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:1111288 CAPLUS
 DOCUMENT NUMBER: 144:36213
 TITLE: Dynamic kinetic resolution of α,β -unsaturated lactones through asymmetric copper-catalyzed conjugate reduction: Application to the total synthesis of eupomatilone-3
 AUTHOR(S): Rainka, Matthew P.; Milne, Jacqueline E.; Buchwald, Stephen L.
 CORPORATE SOURCE: Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA, 02139, USA
 SOURCE: Angewandte Chemie, International Edition (2005), 44(38), 6177-6180
 CODEN: ACIEF5; ISSN: 1433-7851
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 144:36213
 GI

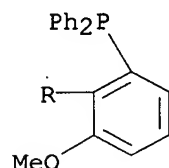
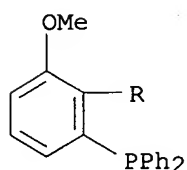


AB Only six steps were needed for the total synthesis of eupomatilone-3 in 48% overall yield thanks to the development of a dynamic kinetic resolution that allowed the reductive conversion of a racemic α,β -unsatd. butenolide I in high yield and high enantiomeric and diastereomeric excess. This copper-catalyzed dynamic kinetic resolution was then applied to several γ -aryl-containing α,β -unsatd. butenolides.

IT 133545-16-1
 RL: CAT (Catalyst use); USES (Uses)
 (kinetic resolution of α,β -unsatd. lactones via asym.
 copper-catalyzed conjugate reduction and application to total synthesis of eupomatilone-3)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 50 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:1078324 CAPLUS

DOCUMENT NUMBER: 143:367208

TITLE: Asymmetric hydrogenation process for preparation of chiral cycloalkanoindoleacetates using ruthenium or rhodium complexes with chiral phosphines.

INVENTOR(S): Tellers, David M.; Humphrey, Guy R.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 11 pp.
 CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005222428	A1	20051006	US 2005-97565	20050401
AU 2005230897	A1	20051020	AU 2005-230897	20050329
CA 2561632	A1	20051020	CA 2005-2561632	20050329
WO 2005097745	A1	20051020	WO 2005-US10501	20050329

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
 MR, NE, SN, TD, TG

EP 1737820 A1 20070103 EP 2005-732832 20050329

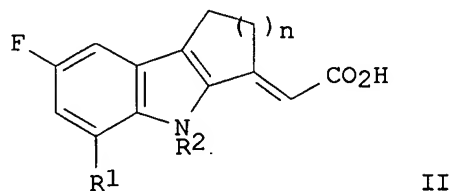
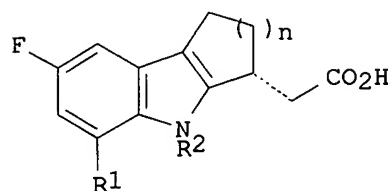
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
 IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, HR, LV

PRIORITY APPLN. INFO.: US 2004-558972P P 20040402

WO 2005-US10501 W 20050329

OTHER SOURCE(S): CASREACT 143:367208; MARPAT 143:367208

GI



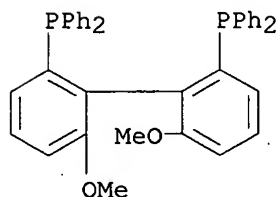
AB Title compds. (I; n = 1, 2; R1 = Br, SO2Me; R2 = H, PhCH2, 4-nitrobenzyl, 4-aminobenzyl, 4-trifluoromethylbenzyl, 4-chlorobenzyl), were prepared via hydrogenation of α,β -unsatd. acids (II; variables as above) at 0-500 psig H2 in the presence of a Ru-axially chiral phosphine ligand complex, or a Rh ferrocenylphosphine ligand complex, or a Rh TMBTP complex. Preparation of I (n = 1; R1 = SO2Me; R2 = 4-chlorobenzyl) was claimed.

IT 133577-92-1, (\pm)-MeO-BIPHEP 133577-92-1D, ruthenium complexes 270253-34-4D, cyclic diethers, ruthenium complexes
 RL: CAT (Catalyst use); USES (Uses)

(asym. hydrogenation process for preparation of chiral cycloalkanoindoleacetates using ruthenium or rhodium complexes with chiral phosphines)

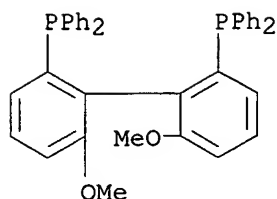
RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
 (CA INDEX NAME)

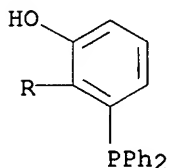
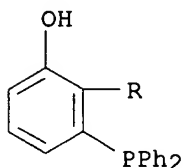


RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
 (CA INDEX NAME)



RN 270253-34-4 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)- (9CI) (CA INDEX NAME)



L3 ANSWER 51 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:1059027 CAPLUS
 DOCUMENT NUMBER: 143:477615
 TITLE: Silver-Catalyzed Asymmetric Sakurai-Hosomi Allylation of Ketones
 AUTHOR(S): Wadamoto, Manabu; Yamamoto, Hisashi
 CORPORATE SOURCE: Department of Chemistry, University of Chicago, Chicago, IL, 60637, USA
 SOURCE: Journal of the American Chemical Society (2005), 127(42), 14556-14557
 CODEN: JACSAT; ISSN: 0002-7863
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 143:477615

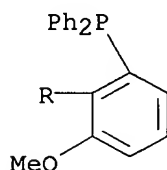
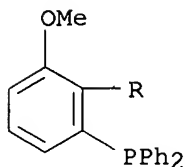
AB The complex of AgF and (R)-DIFLUORPHOS has been shown to be an effective catalyst for the asym. Sakurai-Hosomi allylation of simple ketones. A significant improvement of the reactivity was observed by using THF as the solvent. The catalyst turnover was increased by addition of 1 equiv of MeOH. AgF and (R)-DIFLUORPHOS predominantly formed a 1:1 complex that provided high enantioselectivity. This catalyst system can be applied to various simple ketones, and corresponding tertiary homoallylic alcs. were obtained with excellent enantioselectivities. Only 1,2-adducts were obtained from both acyclic and cyclic conjugate ketones. The regio-, diastereo-, and enantioselective crotylation has also been achieved. E- or Z-crotyltrimethoxysilane gave a similar diastereomer ratio with high enantioselectivities. This finding introduces the utility of racemic allylsilanes for the enantioselective Sakurai-Hosomi allylation reaction.

IT 133545-16-1
 RL: CAT (Catalyst use); USES (Uses)

(stereoselective preparation of homoallylic alcs. via silver-catalyzed asym.
Sakurai-Hosomi allylation of ketones with allylic silanes in the
presence of chiral diphosphine ligands)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-
diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 52 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:962239 CAPLUS

DOCUMENT NUMBER: 143:266590

TITLE: Process for the preparation of enantiomerically pure
1-substituted-3-aminoalcohols

INVENTOR(S): Michel, Dominique; Mettler, Hanspeter; McGarrity, John

PATENT ASSIGNEE(S): Lonza A.-G., Switz.

SOURCE: PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

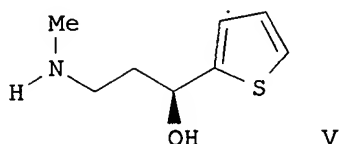
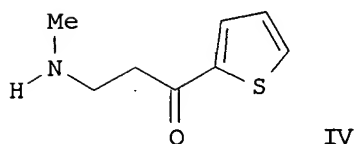
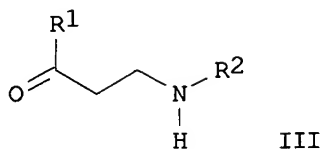
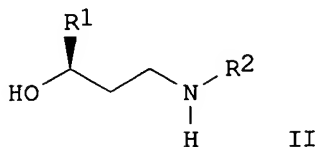
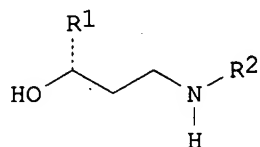
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005080370	A1	20050901	WO 2005-EP1781	20050221
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1566383	A1	20050824	EP 2004-3809	20040219
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
AU 2005215906	A1	20050901	AU 2005-215906	20050221
CA 2556891	A1	20050901	CA 2005-2556891	20050221
EP 1720852	A1	20061115	EP 2005-715425	20050221
R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,			

IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
 CN 1922168 A 20070228 CN 2005-80005452 20050221
 NO 2006004017 A 20060915 NO 2006-4017 20060906
 PRIORITY APPLN. INFO.: EP 2004-3809 A 20040219
 EP 2004-10043 A 20040428
 WO 2005-EP1781 W 20050221

OTHER SOURCE(S): MARPAT 143:266590
 GI



AB A process for the preparation of enantiomerically pure 1-substituted-3-aminoalcs. of formula I [wherein R1 = (un)substituted 2-thienyl, (un)substituted 2-furanyl, or (un)substituted phenyl; R2 = (un)substituted C1-4 alkyl or (un)substituted phenyl] and formula II [wherein R1 = (un)substituted 2-thienyl, (un)substituted 2-furanyl, or (un)substituted phenyl; R2 = (un)substituted C1-4 alkyl or (un)substituted phenyl], by asym. hydrogenating an aminoketone or salts of a carboxylic acid and an aminoketone of formula III [wherein R1 = (un)substituted 2-thienyl, (un)substituted 2-furanyl, or (un)substituted phenyl; R2 = (un)substituted C1-4 alkyl or (un)substituted phenyl], and wherein the corresponding aminoalcs. are obtained by subsequent hydrolysis of their salts. Thus, a mixture of 2-acetylthiophene, methylamine hydrochloride, and paraformaldehyde were heated to 120-130 °C for nine hours in ethanol and precipitated to provide 3-N-methylamino-1-(2-thienyl)-1 propanone hydrochloride (PRON-HCl, IV·HCl) which was subsequently stereoselectively reduced in the presence of a transition metal complex of a diphosphine ligand to provide (S)-(-)-3-N-methylamino-1-(2-thienyl)-1-propanol ((S)-PROL-HCl, V). Furthermore provided are salts of carboxylic acids with said aminoketones and the aminoalcs. obtained by asym. hydrogenating said aminoketones, resp.

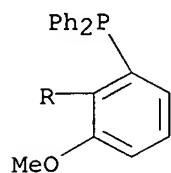
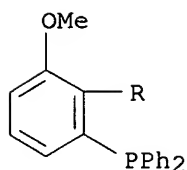
IT 133545-16-1 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

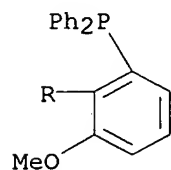
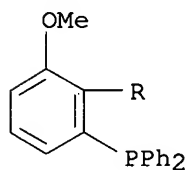
(process for the preparation of enantiomerically pure 1-substituted-3-aminoalcs.)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]

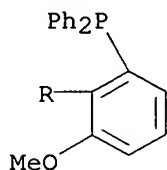
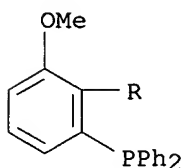


REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

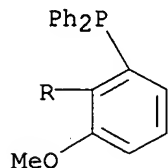
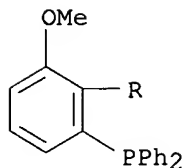
L3 ANSWER 53 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:901934 CAPLUS
 DOCUMENT NUMBER: 143:248273
 TITLE: Preparation of enantiomerically pure 1-substituted-3-amino alcohols
 INVENTOR(S): Michel, Dominique
 PATENT ASSIGNEE(S): Lonza A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 14 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1566383	A1	20050824	EP 2004-3809	20040219
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
AU 2005215906	A1	20050901	AU 2005-215906	20050221
CA 2556891	A1	20050901	CA 2005-2556891	20050221

WO 2005080370 A1 20050901 WO 2005-EP1781 20050221
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1720852 A1 20061115 EP 2005-715425 20050221
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
CN 1922168 A 20070228 CN 2005-80005452 20050221
NO 2006004017 A 20060915 NO 2006-4017 20060906
PRIORITY APPLN. INFO.: EP 2004-3809 A 20040219
EP 2004-10043 A 20040428
WO 2005-EP1781 W 20050221
OTHER SOURCE(S): CASREACT 143:248273; MARPAT 143:248273
AB Provided is a process for the preparation of enantiomerically pure 1-substituted-3-amino alcs. (R)- or (S)-HOCH(R1)CH2CH2NHR2 (R1 = 2-thienyl, 2-furanyl, Ph, substituted 2-thienyl, substituted 2-furanyl, substituted Ph; R2 = C1-C4-alkyl, Ph, substituted C1-C4-alkyl, substituted Ph), particularly (S)-(-)- and (R)-(+)-3-N-methylamino-1-(2-thienyl)-1-propanol, by asym. hydrogenating salts of R1COCH2CH2NHR2 using Rh and an asym. ligand.
IT 133545-16-1 133545-17-2
RL: RGT (Reagent); RACT (Reactant or reagent)
(asym. synthesis of 1-substituted -3-amino alcs. via hydrogenation of amino ketones)
RN 133545-16-1 CAPLUS
CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]

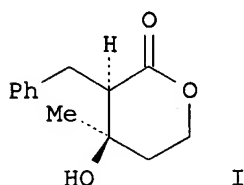


RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]

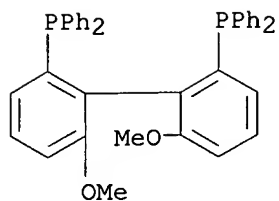


REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 54 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:782283 CAPLUS
 DOCUMENT NUMBER: 143:367178
 TITLE: Cu(I)-Catalyzed reductive aldol cyclizations: Diastereo- and enantioselective synthesis of β -hydroxy lactones
 AUTHOR(S): Lam, Hon Wai; Joensuu, Pekka M.
 CORPORATE SOURCE: School of Chemistry, University of Edinburgh, Edinburgh, EH9 3JJ, UK
 SOURCE: Organic Letters (2005), 7(19), 4225-4228
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 143:367178
 GI

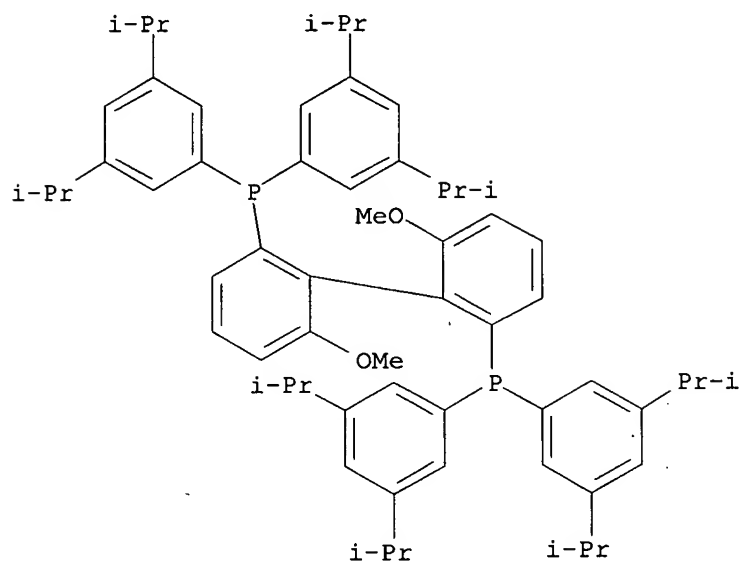


AB Copper bisphosphine complexes catalyze the intramol. reductive aldol reaction of α,β -unsatd. esters with ketones, affording five- and six-membered β -hydroxy lactones in high stereoselectivities. Thus, reaction of trans-MeCOCH₂CH₂O₂CCH:CHPh in THF containing Cu(OAc)₂, 1,1'-bis(diphenylphosphino)ferrocene, and tetramethyldisilazane gave the hydroxypyranone I in 72% yield. Utilization of chiral nonracemic bisphosphines rendered the cyclizations enantioselective.
 IT 133577-92-1 256390-45-1 394248-45-4
 RL: CAT (Catalyst use); USES (Uses)
 (diastereo- and enantioselective preparation of hydroxy lactones via copper/phosphine ligand-catalyzed cyclization of unsatd. carboxylic acid esters with hydroxy ketones)
 RN 133577-92-1 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
 (CA INDEX NAME)



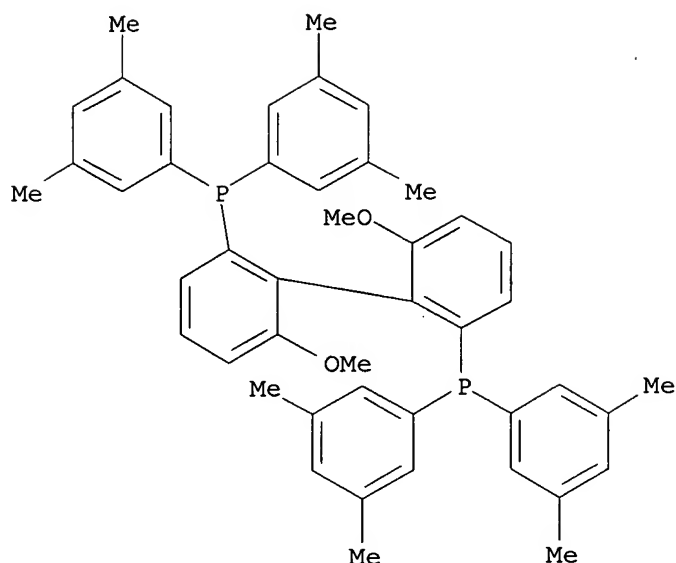
RN 256390-45-1 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 394248-45-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 55 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:702939 CAPLUS

DOCUMENT NUMBER: 144:488785

TITLE: Cationic cobalt(I) catalysts for the asymmetric cyclocarbonylation of 1,6-enynes

AUTHOR(S): Schmid, Thomas M.; Gischig, Sebastian; Consiglio, Giambattista

CORPORATE SOURCE: Institut fuer Chemie und Bioingenieurwissenschaften, Eidgenoessische Technische Hochschule, Zurich, CH-8093, Switz.

SOURCE: Chirality (2005), 17(7), 353-356

CODEN: CHRLEP; ISSN: 0899-0042

PUBLISHER: Wiley-Liss, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 144:488785

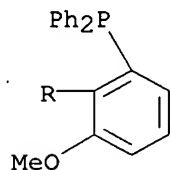
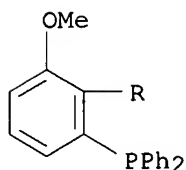
AB Co(I) complexes, modified with (R)-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine) [Co((R)-MeO-Biphep)(CO)₃]⁺X⁻ (X = BF₄ (1) or OTf (2)), were synthesized and characterized. The compds. have a trigonal bipyramidal structure and are fluxional. They were tested as catalyst precursors for the enantioselective cyclocarbonylation of 4,4-bis(carboethoxy)hept-6-en-1-yne. Enantioselectivities up to 78.5% were attained. However, activity and stereoselectivity are lower compared to catalytic systems based on Co₂(CO)₈ modified with the same atropisomeric ligand.

IT 133545-16-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(cationic cobalt(I) carbonyl diphosphinobiphenyl complexes as catalysts for asym. cyclocarbonylation of 1,6-enyne)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 56 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:673290 CAPLUS

DOCUMENT NUMBER: 143:172883

TITLE: Catalytic asymmetric hetero Diels-Alder reaction of a heteroaromatic C-nitroso dienophile: a novel method for synthesis of chiral non-racemic amino alcohols

INVENTOR(S): Yamamoto, Yuhei; Yamamoto, Hisashi

PATENT ASSIGNEE(S): University of Chicago, USA

SOURCE: PCT Int. Appl., 74 pp.

CODEN: PIXXD2

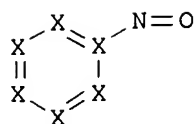
DOCUMENT TYPE: Patent

LANGUAGE: English

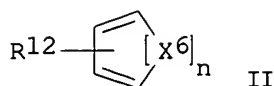
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

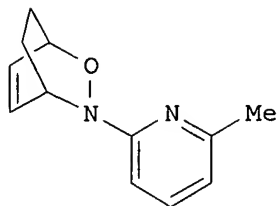
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005068457	A1	20050728	WO 2004-US43987	20041230
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005261497	A1	20051124	US 2004-27551	20041230
PRIORITY APPLN. INFO.:			US 2004-534025P	P 20040102
OTHER SOURCE(S):			MARPAT 143:172883	
GI				



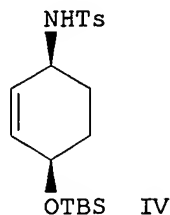
I



II



III



IV

AB The present invention is directed to catalytic asym. Diels-Alder reaction of a C-nitroso dienophile, e.g. (I) (X = independently CR1 or N; R1 = independently H, alkyl, cycloalkyl, alkoxy, alkylamino, alkylthio, halogen, heterocyclyl, aryl, heteroaryl, arylalkyl, and O-silyl), and 1,3-diene, e.g. (II) (X6 = independently CR9R10, NR11, O, or S; R9-R11 = independently H, alkyl, cycloalkyl, alkoxy, alkylamino, alkylthio, halogen, heterocyclyl, aryl, heteroaryl, arylalkyl, or O-silyl; n = 1-4; R12 = 0 to 4 substituents, each of which is independently selected from the group consisting of alkyl, cycloalkyl, alkoxy, alkylamino, alkylthio, halogen, heterocyclyl, aryl, heteroaryl, arylalkyl, and O-silyl) in the presence of a catalytic amount of an asym. bidentate ligand and a metal to give an enantiomerically enriched dihydro-1,2-oxazine cycloadduct which is converted into a chiral amino alc. Thus, 18.6 mg CuPF6(MeCN)4 and 32.1 mg (S)-(-)-SEGPHOS were dried under vacuum for 10 min and 4 mL anhydrous CH2Cl2 was added. The mixture was stirred for 1 h and the clear solution was cooled to -85°, treated dropwise with a solution of 1.0 equiv 6-methyl-2-nitrosopyridine in CH2Cl2, stirred for 10 min, and then treated with 1.5 equiv cyclohexadiene. The reaction mixture was gradually warmed to -20° over a period of 5 h, and then stirred at -20° for an addnl. 1 h to give >95% cycloadduct (III) which was converted into chiral cis-4-amino-2-cyclohexenol derivative (IV).

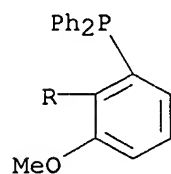
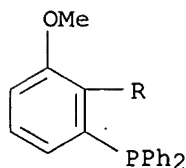
IT 133545-16-1, (R)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(catalytic asym. hetero Diels-Alder reaction of heteroarom. C-nitroso dienophile in synthesis of chiral dihydro-1,2-oxazine cycloadduct and amino alcs.)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 57 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:621820 CAPLUS
DOCUMENT NUMBER: 143:286065
TITLE: Cu(I)-Catalyzed Direct Enantioselective Cross Aldol-Type Reaction of Acetonitrile
AUTHOR(S): Suto, Yutaka; Tsuji, Riichiro; Kanai, Motomu; Shibasaki, Masakatsu
CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, 113-0033, Japan
SOURCE: Organic Letters (2005), 7(17), 3757-3760
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 143:286065

AB Direct catalytic enantioselective cross aldol-type reaction of aldehydes RCHO (R = Me₂CHCH₂, cyclohexyl, Ph, PhCH₂, n-hexyl, etc.) with acetonitrile to give β-hydroxynitriles RCHOHCH₂CN was developed using Cu alkoxide-chiral phosphine complexes as catalysts. Chemoselective activation and deprotonation of the donor substrate (acetonitrile) by the soft metal alkoxide in a strongly donating solvent (HMPA) are key to success in this reaction. Useful chemical yields and promising enantioselectivities are produced using either DTBM-SEGPPOS or a tuned BIPHEP as a chiral ligand.

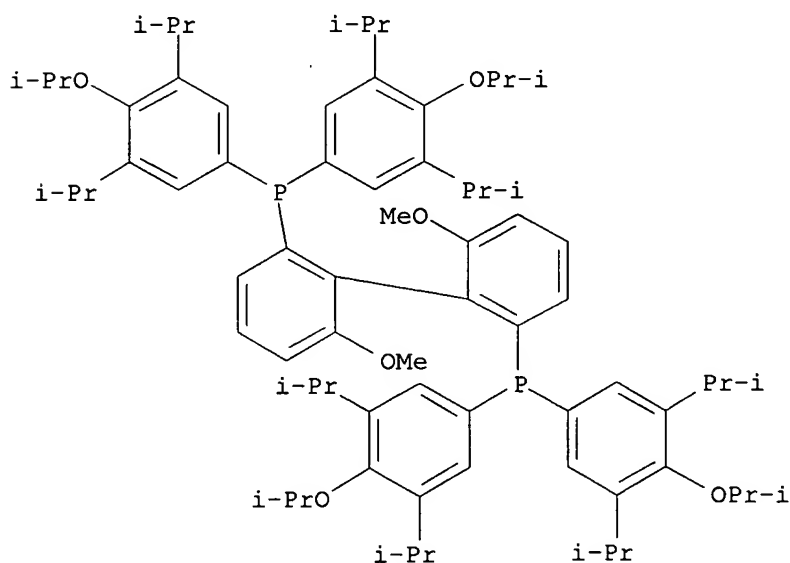
IT 864365-88-8P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(preparation of biphenyl diphosphine as chiral ligand for Cu(I)-catalyzed direct cross aldol-type reaction of aldehydes with acetonitrile)

RN 864365-88-8 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[4-(1-methylethoxy)-3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



IT 864365-86-6P

RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of biphenyl diphosphine as chiral ligand for Cu(I)-catalyzed direct cross aldol-type reaction of aldehydes with acetonitrile)

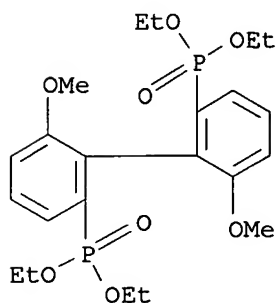
RN 864365-86-6 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, (2S,3S)-, compd. with tetraethyl [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[phosphonate] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 145264-54-6

CMF C22 H32 O8 P2

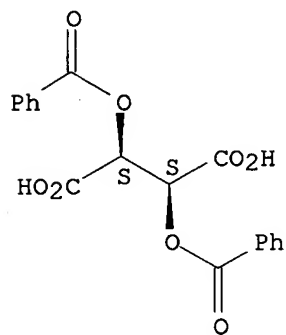


CM 2

CRN 17026-42-5

CMF C18 H14 O8

Absolute stereochemistry. Rotation (+).



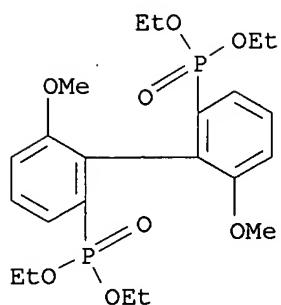
IT 145264-54-6P 145265-39-0P 864365-87-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of biphenyl diphosphine as chiral ligand for Cu(I)-catalyzed direct cross aldol-type reaction of aldehydes with acetonitrile)

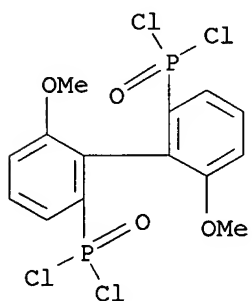
RN 145264-54-6 CAPLUS

CN Phosphonic acid, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-, tetraethyl ester (9CI) (CA INDEX NAME)



RN 145265-39-0 CAPLUS

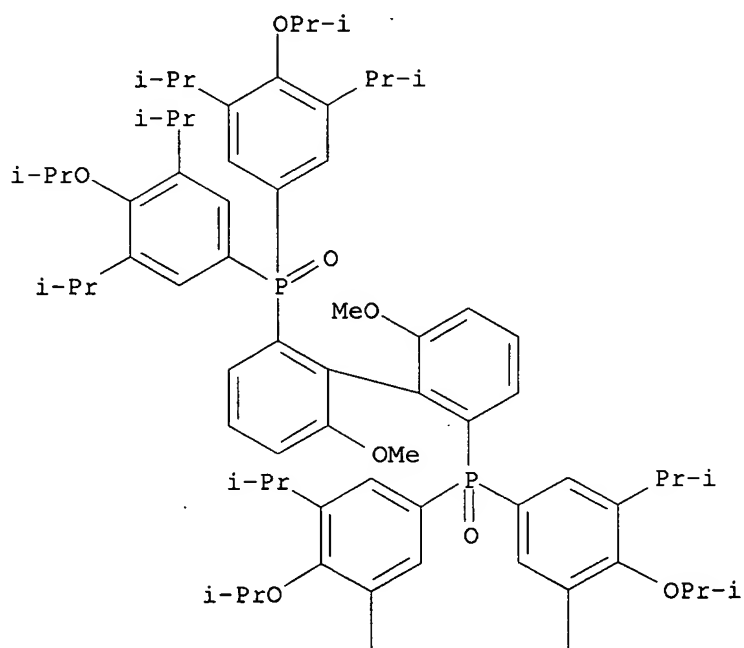
CN Phosphonic dichloride, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-(9CI) (CA INDEX NAME)



RN 864365-87-7 CAPLUS

CN Phosphine oxide, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[4-(1-methylethoxy)-3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



| |
i-Pr i-Pr

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 58 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:547374 CAPLUS
 DOCUMENT NUMBER: 143:60250
 TITLE: Method for making fluorine-labeled L-dopa
 INVENTOR(S): Walsh, Joseph C.; Padgett, Henry C.
 PATENT ASSIGNEE(S): CTI Pet Systems, Inc., USA; Molecular Technologies, Inc.
 SOURCE: U.S. Pat. Appl. Publ., 12 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005137421	A1	20050623	US 2003-742023	20031219
US 7022872	B2	20060404		
PRIORITY APPLN. INFO.:			US 2003-742023	20031219

OTHER SOURCE(S): CASREACT 143:60250

AB The invention relates to a method for preparing F-dopa and 18F-dopa in good yield with high enantiopurity without the need for further transformations and comprises reacting a benzaldehyde derivative with a phosphonic acid derivative

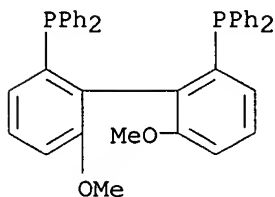
to produces an olefin intermediate that can be asym. hydrogenated to produce the desired enantiomer. Thus, F-dopa was prepared by reaction of 2-fluoro-4,5-dimethoxybenzaldehyde with (tert-butoxycarbonylamino)(dimethoxyphosphoryl)acetic acid Me ester, followed by hydrogenation over (S,S)-Et-DUPHOS-Rh and treatment with 48% HBr.

IT 133577-92-1, (±)-MeOBIPHEP

RL: CAT (Catalyst use); USES (Uses)
 (asym. synthesis of fluorine-labeled L-dopa)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
 (CA INDEX NAME)



L3 ANSWER 59 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:494871 CAPLUS
 DOCUMENT NUMBER: 144:292547
 TITLE: Homogeneous iridium-catalyzed dehydroaromatization of

2-substituted-1,2-dihydroquinolines

AUTHOR(S): Lu, Shengmei; Wang, Youqing; Han, Xiuwen; Zhou, Yonggui

CORPORATE SOURCE: Dalian Institute of Chemical Physics, The Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China

SOURCE: Cuihua Xuebao (2005), 26(4), 287-290
CODEN: THHPD3; ISSN: 0253-9837

PUBLISHER: Kexue Chubanshe

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

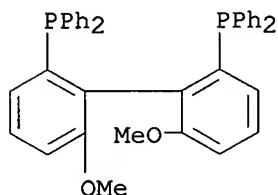
OTHER SOURCE(S): CASREACT 144:292547

AB The dehydroaromatization reactions of 2-substituted-1,2-dihydroquinolines, 2-methyl-2,3-dihydroindole, 1,4-dihydropyridines and 3,4-dihydroisoquinoline were investigated using iridium complexes with P-P or N-P ligands prepared in situ. The effect of different metal precursors, ligands, catalyst loading, solvents and iodine on the rate and selectivity for the dehydroaromatization was investigated using 2-methyl-1,2-dihydroquinoline as model substrate. The best result was achieved by using the complex [Ir(COD)Cl]₂/(±)-MeO-Biphep in the presence of iodine at room temperature. The aromatization of 2,3-dihydroindole and 1,4-dihydropyridine could proceed only at high temperature in the same catalyst system, and 3,4-dihydroisoquinoline could not be aromatized even at 120 °C for 36 h. The presence of iodine could accelerate the reaction rate.

IT 133577-92-1
RL: CAT (Catalyst use); USES (Uses)
(homogeneous iridium-catalyzed dehydroaromatization of 2-substituted-1,2-dihydroquinolines)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl]- (9CI)
(CA INDEX NAME)



L3 ANSWER 60 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:378835 CAPLUS

DOCUMENT NUMBER: 143:78246

TITLE: Avoiding the classical resolution during the synthesis of MeO-BIPHEP and 3,3'-disubstituted derivatives

AUTHOR(S): Gorobets, Evgueni; Wheatley, Bronwen M. M.; Hopkins, J. Matthew; McDonald, Robert; Keay, Brian A.

CORPORATE SOURCE: Department of Chemistry, University of Calgary, Calgary, AB, T2N 1N4, Can.

SOURCE: Tetrahedron Letters (2005), 46(22), 3843-3846
CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 143:78246

AB The Ullmann coupling of a (S)-2-acetoxy propionyl chloride-derived iododiphenylphosphinyl benzene derivative gave a 2:1 mixture of diastereomers in 81% yield that are easily separated by silica gel chromatog. This procedure avoids the generally cumbersome and sometimes difficult resolution

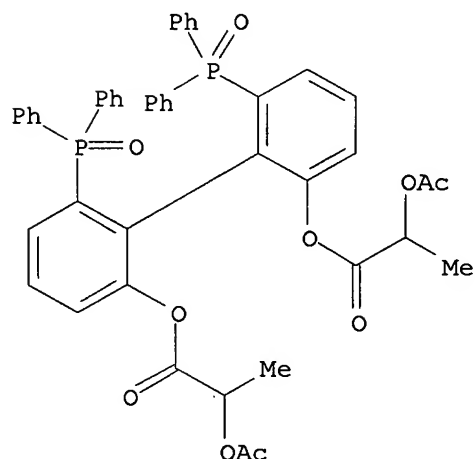
step with DBTA. Similar Ullmann couplings and separation of the corresponding diastereomers are employed with other (S)-2-acetoxy propionyl chloride-derived iodo diphenylphosphinyl benzene derivs. or (R)-2-acetoxy propionyl chloride-derived iodo diphenylphosphinyl benzene derivs. ultimately affording a new series of 3,3'-disubstituted-MeO-BIPHEP derivs. The use of these new derivs. in a palladium-catalyzed asym. Heck reaction, a Pd-catalyzed asym. polyene cyclization reaction, and a rhodium-catalyzed enantioselective hydrogenation is also reported.

IT 855300-66-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(minor diastereomer formed in the preparation of a nonracemic biphenyldiphosphine using the stereoselective Ullmann coupling of a (diphenylphosphinyl)iodophenyl ester of (S)-acetylactic acid as the key step)

RN 855300-66-2 CAPLUS

CN Propanoic acid, 2-(acetyloxy)-, (1S)-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl ester, (2S,2'S)- (9CI) (CA INDEX NAME)



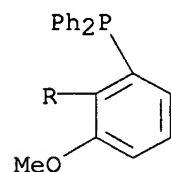
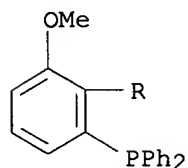
IT 133545-16-1P, (R)-MeO-BIPHEP

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(preparation of nonracemic biphenyldiphosphines using the stereoselective Ullmann coupling of (diphenylphosphinyl)iodophenyl esters of acetylactic acids as the key step)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl]- (CA INDEX NAME)



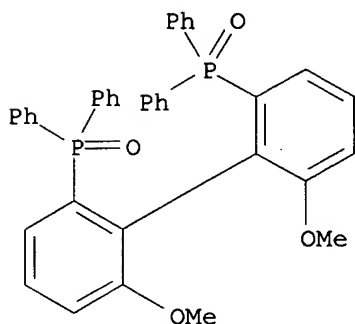
IT 133577-82-9P 855300-65-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of nonracemic biphenyldiphosphines using the stereoselective Ullmann coupling of (diphenylphosphinyl)iodophenyl esters of acetylactic acids as the key step)

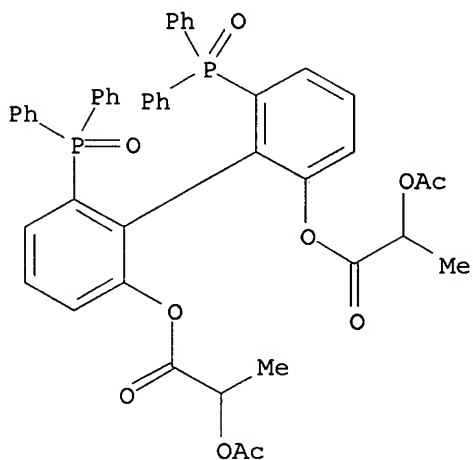
RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)-(9CI) (CA INDEX NAME)



RN 855300-65-1 CAPLUS

CN Propanoic acid, 2-(acetyloxy)-, (1R)-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl ester, (2S,2'S)-(9CI) (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 61 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:291815 CAPLUS

DOCUMENT NUMBER: 143:7548

TITLE: Enantioselective reductive cyclization of 1,6-enynes via rhodium-catalyzed asymmetric hydrogenation: C-C bond formation precedes hydrogen activation

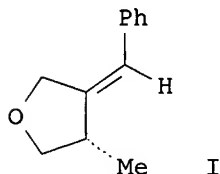
AUTHOR(S): Jang, Hye-Young; Hughes, Freddie W.; Gong, Hegui; Zhang, Junmei; Brodbelt, Jennifer S.; Krische, Michael J.

CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of Texas at Austin, Austin, TX, 78712, USA

SOURCE: Journal of the American Chemical Society (2005),

PUBLISHER:
DOCUMENT TYPE:
LANGUAGE:
OTHER SOURCE(S):
GI

127(17), 6174-6175
CODEN: JACSAT; ISSN: 0002-7863
American Chemical Society
Journal
English
CASREACT 143:7548



AB Asym. hydrogenation of 1,6-enynes using chirally modified cationic rhodium precatalysts enabled enantioselective reductive cyclization to afford alkylidene-substituted carbocycles and heterocycles, e.g., I, in a completely atom economical fashion. Good to excellent yields and exceptional levels of asym. induction were observed across a structurally diverse set of substrates. Mechanistic studies involving hydrogen-deuterium crossover expts., along with the observance of nonconjugated cycloisomerization products, suggested that rhodium(III) metallocyclopentene formation occurred in advance of hydrogen activation. This oxidative coupling-hydrogenolytic cleavage motif should play a key role in the design of related hydrogen-mediated couplings.

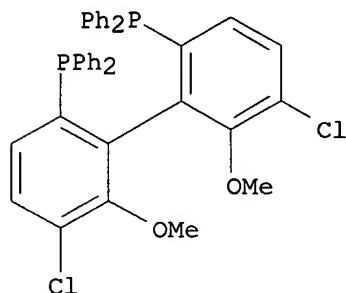
IT 185913-97-7

RL: CAT (Catalyst use); USES (Uses)

(stereoselective preparation of pyrrolidines, tetrahydrofurans, and cyclopentanes via rhodium-catalyzed asym. hydrogenation/reductive cyclization of enynes in the presence of chiral phosphine ligands)

RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 62 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:284199 CAPLUS

DOCUMENT NUMBER: 142:355259

TITLE: Process for the production of chiral propionic acid derivatives

INVENTOR(S): Puentener, Kurt; Scalone, Michelangelo

PATENT ASSIGNEE(S): Switz.

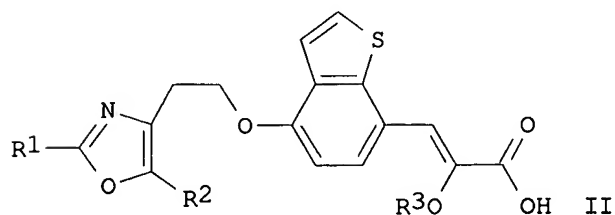
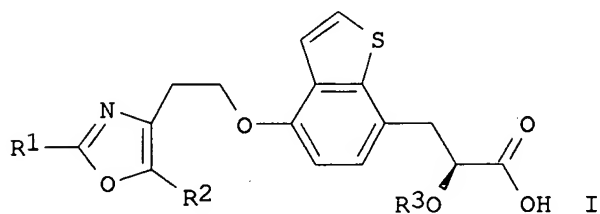
SOURCE: U.S. Pat. Appl. Publ., 17 pp.

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

CODEN: USXXCO

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005070714	A1	20050331	US 2004-933176	20040902
CA 2539176	A1	20050407	CA 2004-2539176	20040921
WO 2005030764	A1	20050407	WO 2004-EP10568	20040921
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1670792	A1	20060621	EP 2004-765444	20040921
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1860115	A	20061108	CN 2004-80028176	20040921
JP 2007506800	T	20070322	JP 2006-530000	20040921
PRIORITY APPLN. INFO.: EP 2003-21700 A 20030929 WO 2004-EP10568 W 20040921				

OTHER SOURCE(S): CASREACT 142:355259; MARPAT 142:355259
 GI



AB The present invention is concerned with a novel process for the preparation of compds. of formula (I) (wherein R1 = aryl or heteroaryl; R2, R3 = lower alkyl) or salts thereof comprising catalytic asym. hydrogenation of a compound of formula (II) in the presence of a catalyst comprising ruthenium or rhodium and a chiral diphosphine ligand or comprising rhodium and a chiral diphosphine ligand. The compds. of formula I and the corresponding salts and/or esters are pharmaceutically active substances. Thus,

(Z)-2-methoxy-3-[4-[2-(5-methyl-2-phenyloxazol-4-yl)ethoxy]benzo[b]thiophen-7-yl]-2-propenoic acid Me ester. Thus, a suspension of 6.39 g Me 2-methoxy-2-(triphenylphosphonium)acetate chloride (prepared from Me 2-chloro-2-methoxyacetate and triphenylphosphine), 0.68 g lithium methylate, and 3.89 g 4-[2-(5-methyl-2-phenyloxazol-4-yl)ethoxy]benzo[b]thiophene-7-carboxaldehyde in 40 mL DMF was heated for 23 h at 75°, and cooled to 0° to give, after filtering the formed white crystals, washing with 40 mL methanol, drying at 20° and 1 mbar for 16 h, 3.54 g (73 %) (Z)-2-methoxy-3-[4-[2-(5-methyl-2-phenyloxazol-4-yl)ethoxy]benzo[b]thiophen-7-yl]-2-propenoic acid Me ester (III) (97.5% purity). III (45.81 g) in 920 mL methanol was treated with a solution of 40.15 g KOH in 92 mL H₂O and stirred for 90 min at 100° to give the yellowish reaction solution which was cooled to 60°, treated dropwise with 54 mL concentrate HCl within 5 min (pH 3-4), cooled to 0°, and filtered to give 41.66 g (95%) (Z)-2-methoxy-3-[4-[2-(5-methyl-2-phenyloxazol-4-yl)ethoxy]benzo[b]thiophen-7-yl]-2-propenoic acid (IV) (purity >99.9 %). IV (7.0 g), 20 mL CH₂Cl₂, 10 mL MeOH, 3.21 mL 1 M aqueous NaOH solution, and a solution of 6.51 mg (0.00804 mmol) of Ru(OAc)₂((S)-TMBTP) [TMBTP = 4,4'-bis(diphenylphosphino)-2,2',5,5'-tetramethyl-3,3'-dithiophene] in 2 mL MeOH were mixed, rendered homogeneous, and treated with 18 mL MeOH to give a suspension which was autoclaved at 40° and 30 bar H for 6 h to give 7.27 g (S)-2-methoxy-3-[4-[2-(5-methyl-2-phenyloxazol-4-yl)ethoxy]benzo[b]thiophen-7-yl]propionic acid (97.1% purity, 93% enantiomeric purity).

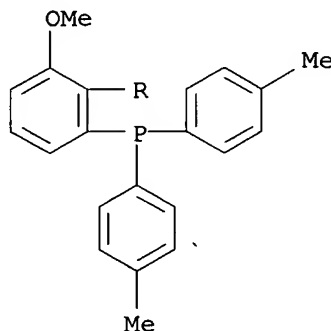
IT 133577-94-3 145209-26-3, (S)-Pphenyl-MeOBIPHEP
 145214-57-9 145214-59-1, (S)-2-Furyl-MeOBIPHEP
 145265-42-5, (S)-PAn-MeOBIPHEP 352655-61-9
 849238-77-3, (S)-BnOBIPHEP 849238-79-5,
 (S)-BenzoylBIPHEP 849238-80-8, (S)-tert-ButylCOOBIPHEP
 849238-83-1, (S)-IPrOBIPHEP

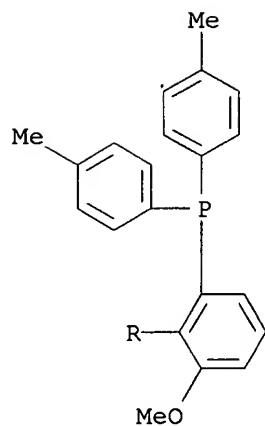
RL: CAT (Catalyst use); USES (Uses)

(asym. hydrogenation catalyst; preparation of chiral
 (benzothiophenyl)propionic acid derivative by asym. hydrogenation of
 (benzothiophenyl)propenoic acid derivative in presence of chiral ruthenium
 or rhodium phosphine complex)

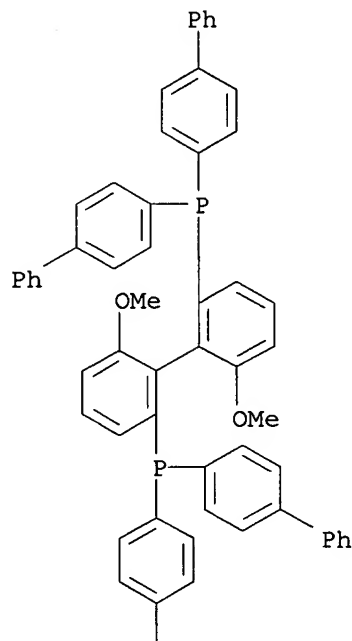
RN 133577-94-3 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

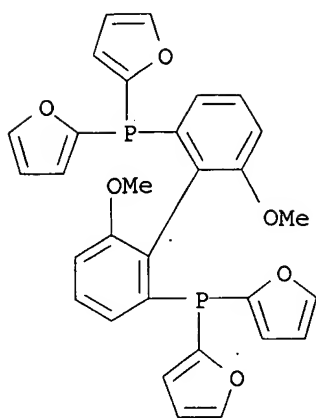




RN 145209-26-3 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)]

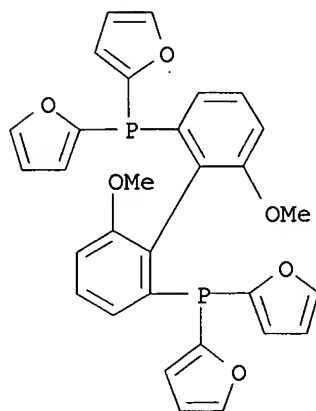


RN 145214-57-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl- (9CI) (CA INDEX NAME)]



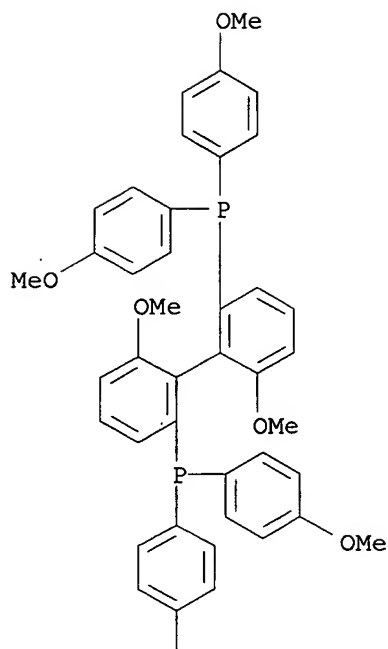
RN 145214-59-1 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl- (9CI)] (CA INDEX NAME)

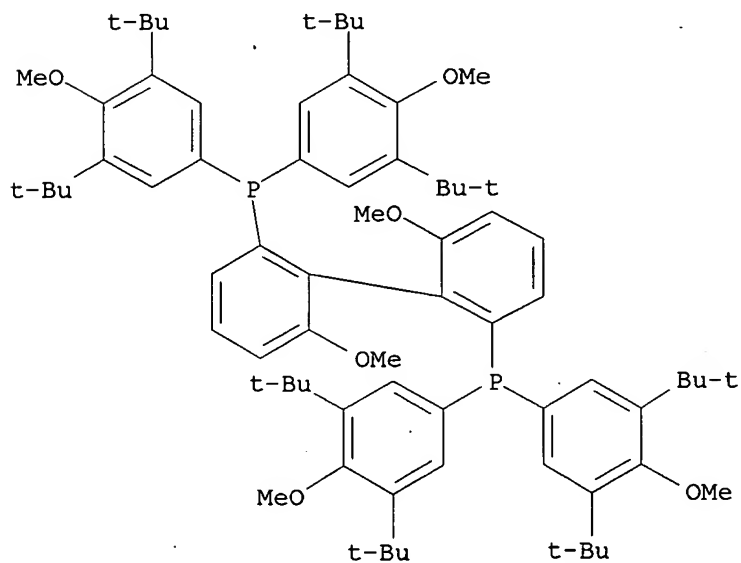


RN 145265-42-5 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxyphenyl)- (9CI)] (CA INDEX NAME)

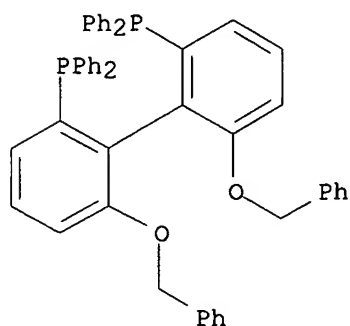


RN 352655-61-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)

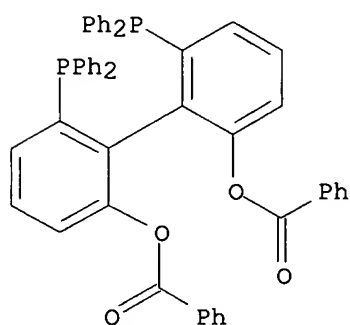


RN 849238-77-3 CAPLUS

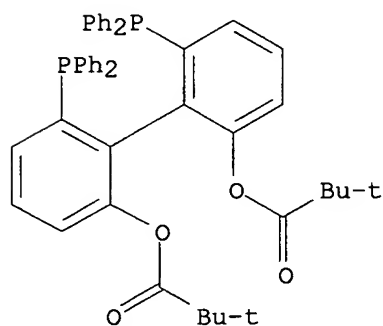
CN Phosphine, [(1S)-6,6'-bis(phenylmethoxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



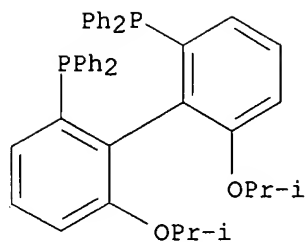
RN 849238-79-5 CAPLUS
CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, dibenzoate, (1S)- (9CI) (CA INDEX NAME)



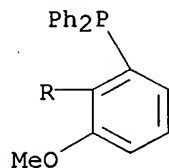
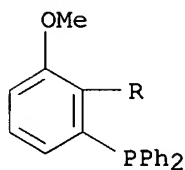
RN 849238-80-8 CAPLUS
CN Propanoic acid, 2,2-dimethyl-, (1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)



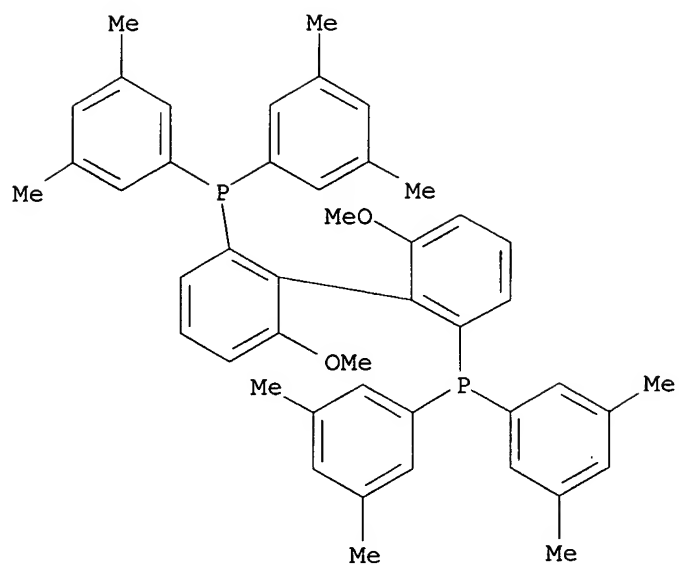
RN 849238-83-1 CAPLUS
CN Phosphine, [(1S)-6,6'-bis(1-methylethoxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



IT 133545-17-2, (S)-MeOBIPHEP 362634-22-8,
 (S)-3,5-Xyl-MeOBIPHEP 849239-14-1, (S)-(2-Naphthyl)MeOBIPHEP
 849239-15-2, (S)-(6-MeO-2-Naphthyl)MeOBIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of chiral (benzothiophenyl)propionic acid derivative by asym.
 hydrogenation of (benzothiophenyl)propenoic acid derivative in presence of
 chiral ruthenium or rhodium phosphine complex)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-
 diphenyl- (CA INDEX NAME)

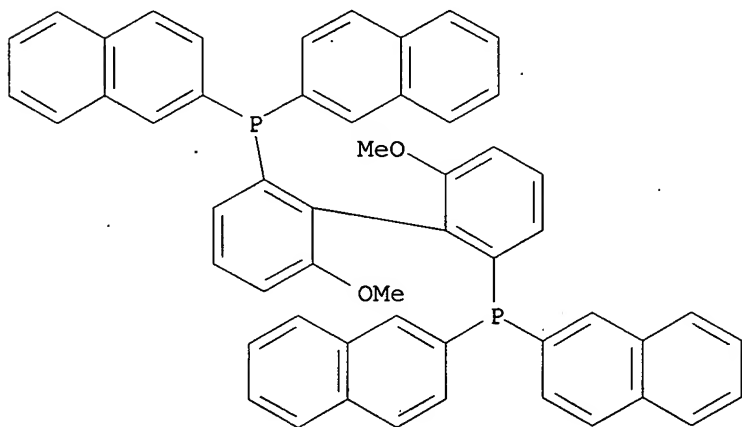


RN 362634-22-8 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-
 bis(3,5-dimethylphenyl)- (CA INDEX NAME)



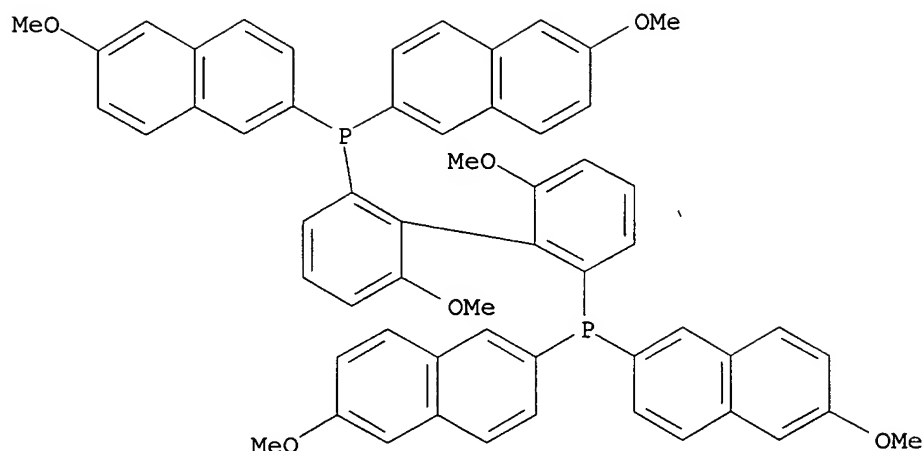
RN 849239-14-1 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-naphthalenyl]- (9CI) (CA INDEX NAME)



RN 849239-15-2 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(6-methoxy-2-naphthalenyl)- (9CI) (CA INDEX NAME)]



L3 ANSWER 63 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:274256 CAPLUS

DOCUMENT NUMBER: 142:481803

TITLE: Dynamic Kinetic Resolution Catalyzed by Ir Axially Chiral Phosphine Catalyst: Asymmetric Synthesis of anti Aromatic β -Hydroxy- α -amino Acid Esters

AUTHOR(S): Makino, Kazuishi; Hiroki, Yasuhiro; Hamada, Yasumasa
CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Chiba University, Inage-ku, Yayoi-cho, Chiba, 263-8522, Japan

SOURCE: Journal of the American Chemical Society (2005), 127(16), 5784-5785

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 142:481803

AB The anti selective hydrogenation of α -amino- β -keto esters was achieved by using the iridium-MeOBIPHEP catalyst yielding aromatic anti- β -hydroxy- α -amino acid esters with excellent diastereo- and enantioselectivities. Acetic acid as a solvent and sodium acetate as an additive dramatically affected the yield and the enantioselectivity. The products are useful for synthesis of pharmaceuticals and natural products.

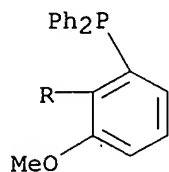
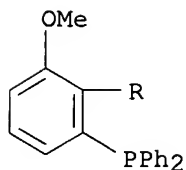
IT 133545-16-1 133545-17-2, (S)-MeOBIPHEP

RL: CAT (Catalyst use); USES (Uses)

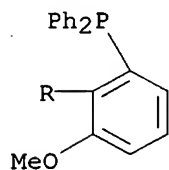
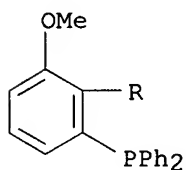
(asym. synthesis of anti aromatic β -hydroxy- α -amino acid esters via dynamic kinetic resolution catalyzed by Ir axially chiral phosphine catalyst)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)



RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 64 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:253273 CAPLUS
 DOCUMENT NUMBER: 142:316957
 TITLE: Preparation of chiral biphenyl-2,2'-diyl diphosphines substituted by alkoxycarbonyl groups for use in asymmetric hydrogenation of ketones and imines
 INVENTOR(S): Artl, Dieter; Mesequer, Benjamin
 PATENT ASSIGNEE(S): Bayer Chemicals A.-G., Germany
 SOURCE: Eur. Pat. Appl., 20 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

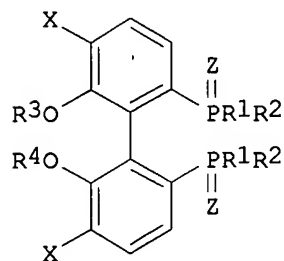
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EP 1516880	A1	20050323	EP 2004-21174	20040907
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DE 10342672	A1	20050421	DE 2003-10342672	20030916
JP 2005089462	A	20050407	JP 2004-267421	20040914

US 2005085377
 PRIORITY APPLN. INFO.:
 OTHER SOURCE(S):
 GI

A1 20050421
 MARPAT 142:316957

US 2004-940785
 DE 2003-10342672

20040914
 A 20030916



AB Chiral (1R)- and (1S)-1,1'-biphenyl-2,2'-bis(phosphines) (I, Z = none, X = H, Cl, Br; R1 = R2 = Ph, cyclohexyl, 3,5-tBu-4-MeOC6H2, 3,5-Me2-4-MeOC6H2, 3,5-tBu2C6H3, 4-FC6H4; R3 = R4 = RO2CCH2, RO2CCHMe, where R = Me, Et; or R3 = cyclohexyl, R4 = RO2CCH2, RO2CCHMe, same R), useful as ligands for asym. hydrogenation of prochiral ketones and imines (no data) and acetoacetate, were prepared by demethylation of corresponding phosphine oxides I (Z = O; R3 = R4 = Me, same X, R1, R2), followed by etherification of 6,6'-diols with R3Y, preferably cyclohexyl bromide, and RO2CCH2Br or RO2CCHMeBr and reduction by HSiCl3 and used as ligands for asym. hydrogenation of Et acetoacetate and Et chloroacetate. In an example, compound (S)-I (Z = O, X = Cl, R3 = R4 = H, R1 = R2 = Ph) was prepared by reaction of the corresponding dimethoxy-derivative with BBr3, followed by water hydrolysis; the diol was reacted with MeO2CH2Br to give I (Z = O, X = Cl, R3 = R4 = MeO2CCH2, R1 = R2 = Ph), which was reduced by HSiCl3 to give the corresponding diphosphine I (5, Z = none, same X, R1-R4). Asym. hydrogenation of Me acetoacetate in the presence of 0.02 mol% of 5 and 0.01 mol% of RuCl3 in ethanol under 90 atm of H2 for 1 h at 80° gave Me 3-hydroxybutyrate with 97.4 % ee.

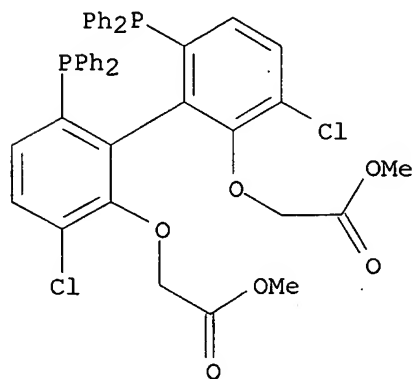
IT 848078-18-2P 848078-19-3P 848078-20-6P
 848078-21-7P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)

(asym. hydrogenation ligand; preparation of axial-chiral biphenyl-2,2'-diphosphines containing alkoxycarbonylalkoxy groups as ligands for asym. hydrogenation of ketones)

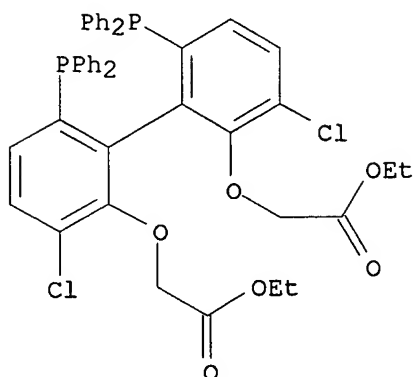
RN 848078-18-2 CAPLUS

CN Acetic acid, 2,2'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



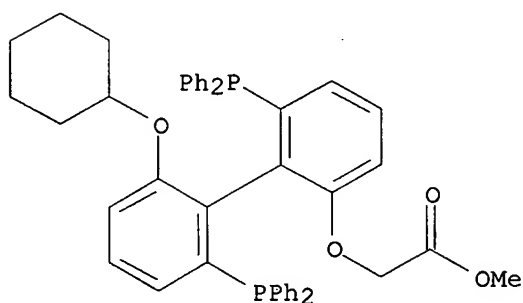
RN 848078-19-3 CAPLUS

CN Acetic acid, 2,2'-[[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



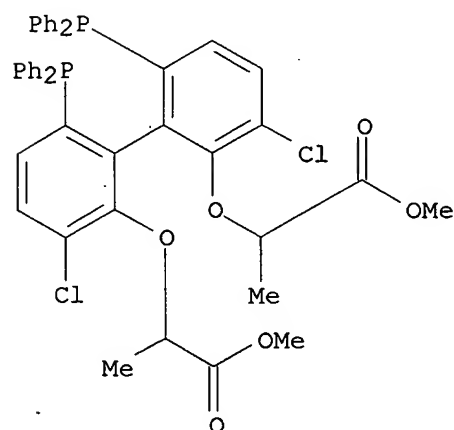
RN 848078-20-6 CAPLUS

CN Acetic acid, [[[(1S)-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



RN 848078-21-7 CAPLUS

CN Propanoic acid, 2,2'-[[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



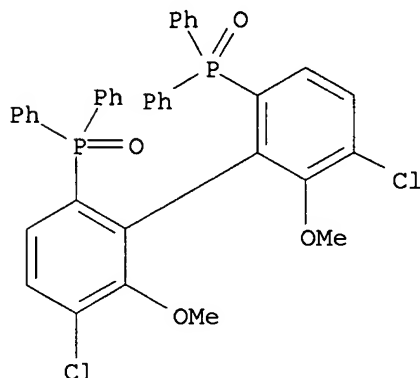
IT 185913-95-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(demethylation; preparation of axial-chiral biphenyl-2,2'-diphosphines containing alkoxy carbonylalkoxy groups as ligands for asym. hydrogenation of ketones)

RN 185913-95-5 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



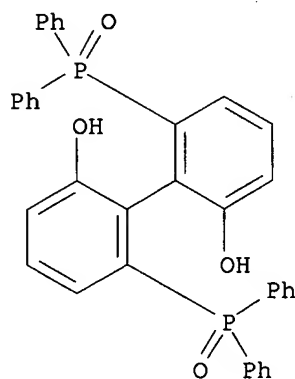
IT 679422-50-5P 691363-03-8P 848078-14-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(etherification; preparation of axial-chiral biphenyl-2,2'-diphosphines containing alkoxy carbonylalkoxy groups as ligands for asym. hydrogenation of ketones)

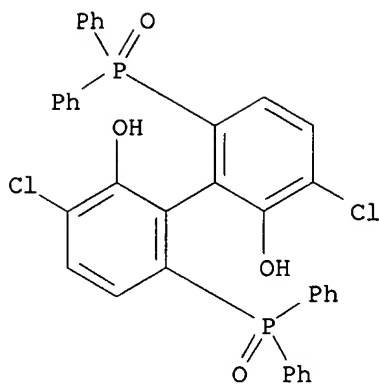
RN 679422-50-5 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA INDEX NAME)



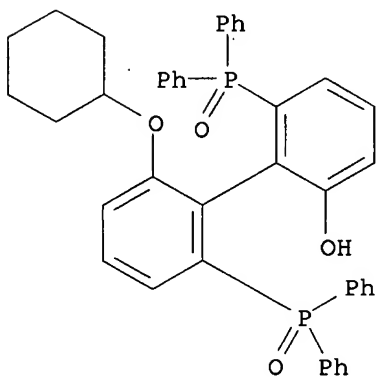
RN 691363-03-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA INDEX NAME)



RN 848078-14-8 CAPLUS

CN [1,1'-Biphenyl]-2-ol, 2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphinyl)-,
(1S)- (9CI) (CA INDEX NAME)



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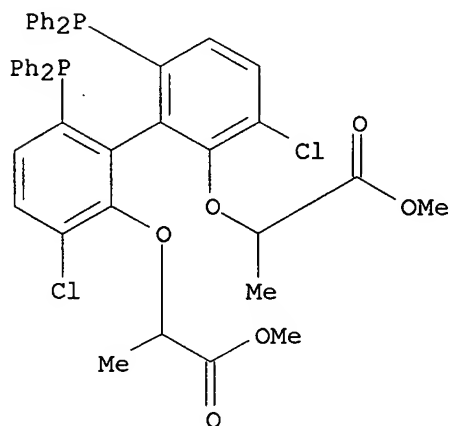
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RL: CAT (Catalyst use); FMU (Formation, unclassified); FORM (Formation, nonpreparative); USES (Uses)

(preparation of axial-chiral biphenyl-2,2'-diphosphines containing alkoxy carbonylalkoxy groups as ligands for asym. hydrogenation of ketones)

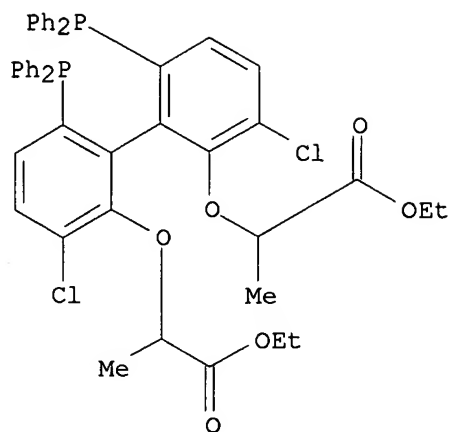
RN 848078-22-8 CAPLUS

CN Propanoic acid, 2,2'-[[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



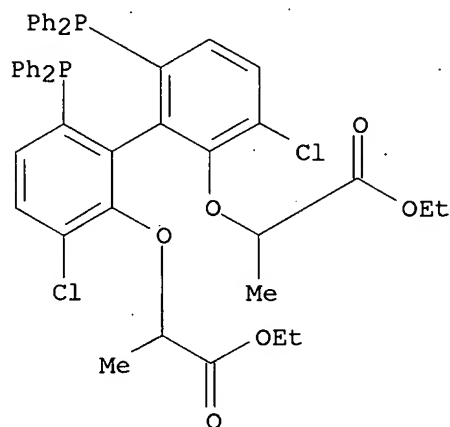
RN 848078-23-9 CAPLUS

CN Propanoic acid, 2,2'-[[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



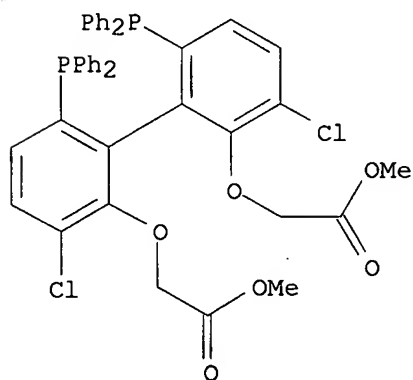
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CN Propanoic acid, 2,2'-[[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



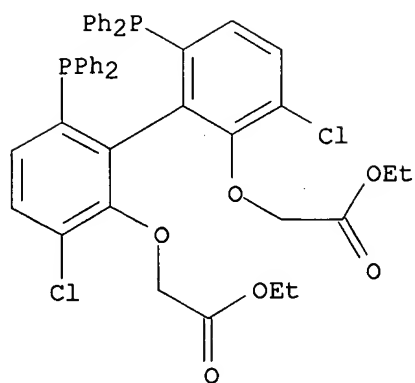
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CN Acetic acid, 2,2'-[[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



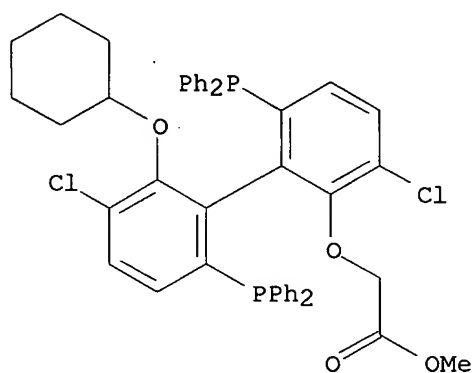
RN 848078-26-2 CAPLUS

CN Acetic acid, 2,2'-[[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



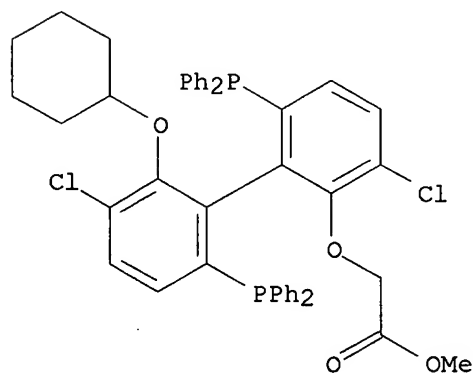
RN 848078-27-3 CAPLUS

CN Acetic acid, [[(1R)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



RN 848078-28-4 CAPLUS

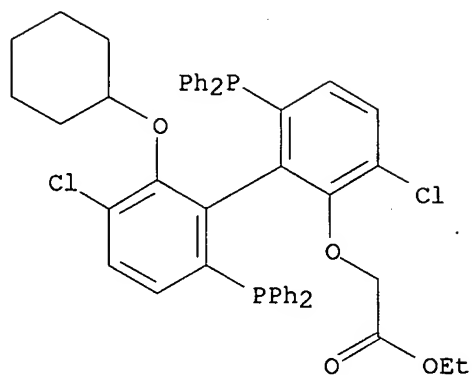
CN Acetic acid, [[(1S)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



RN 848078-29-5 CAPLUS

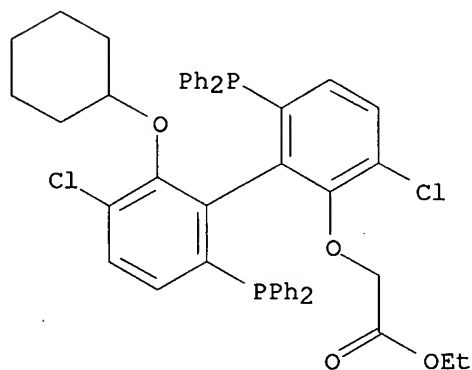
CN Acetic acid, [[(1R)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

INDEX NAME)



RN 848078-30-8 CAPLUS

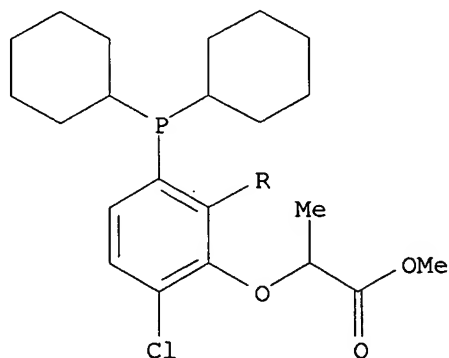
CN Acetic acid, [[[1S]-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

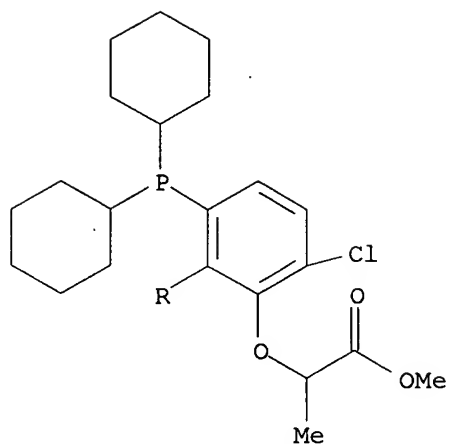


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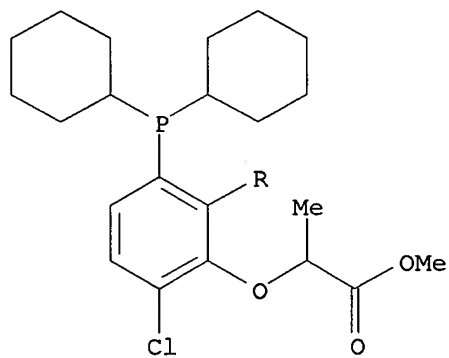
CN Propanoic acid, 2,2'-[[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

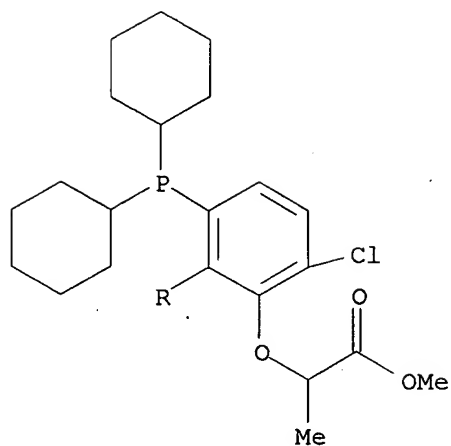
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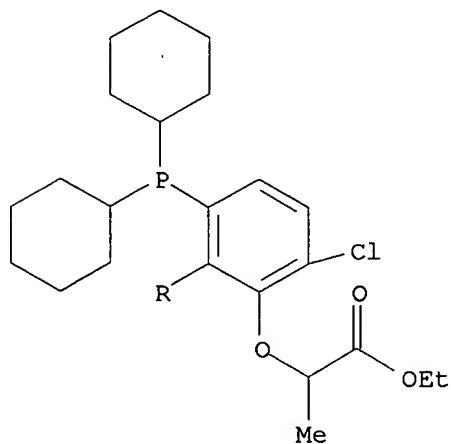
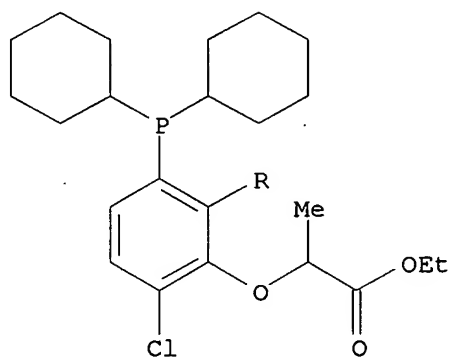


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 CN Propanoic acid, 2,2'-[[[(1S)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



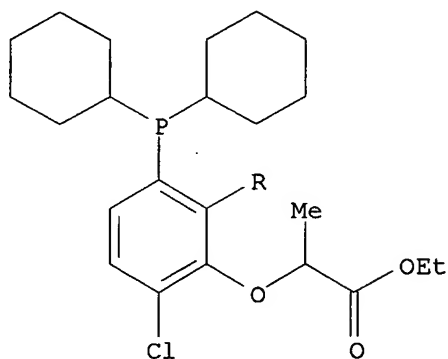


RN 848078-33-1 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

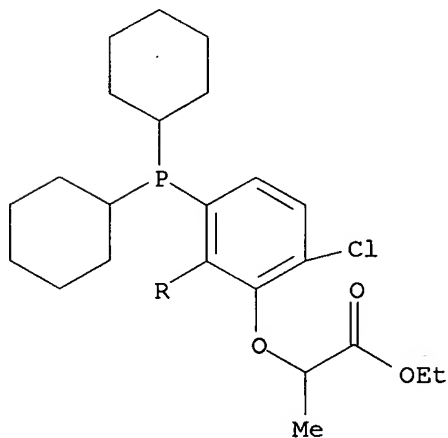


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 CN Propanoic acid, 2,2'-[[[(1S)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

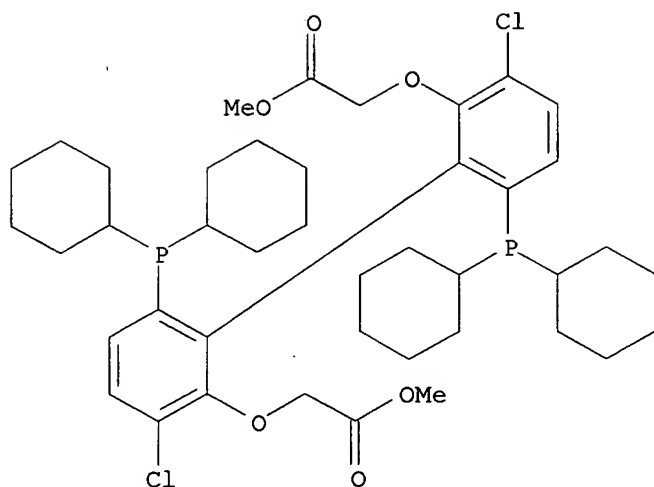
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PAGE 2-A

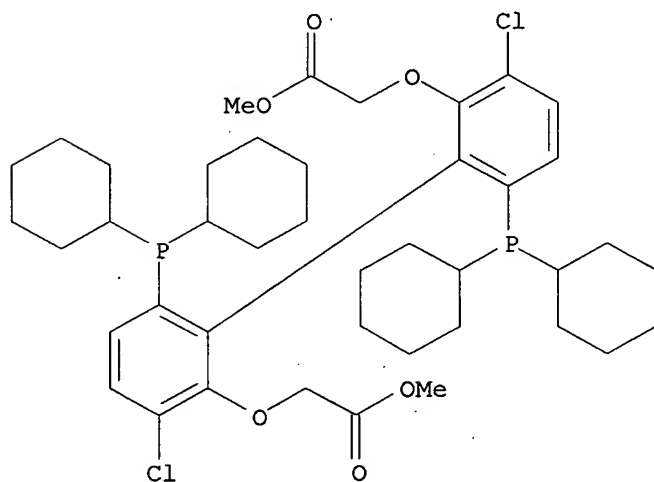


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 CN Acetic acid, 2,2'-[[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



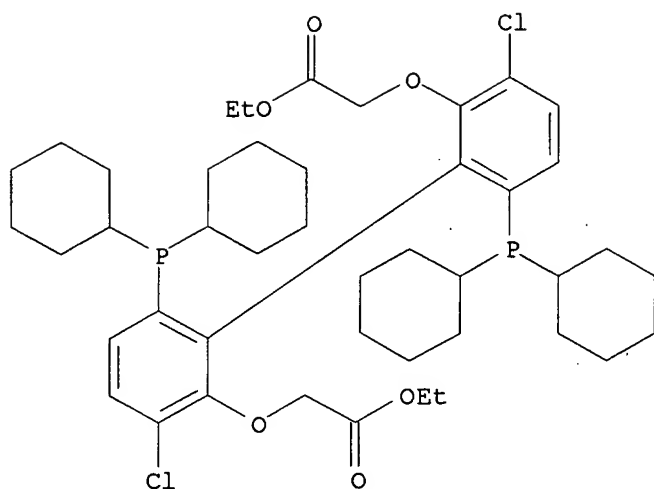
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CN Acetic acid, 2,2'-[[[(1S)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

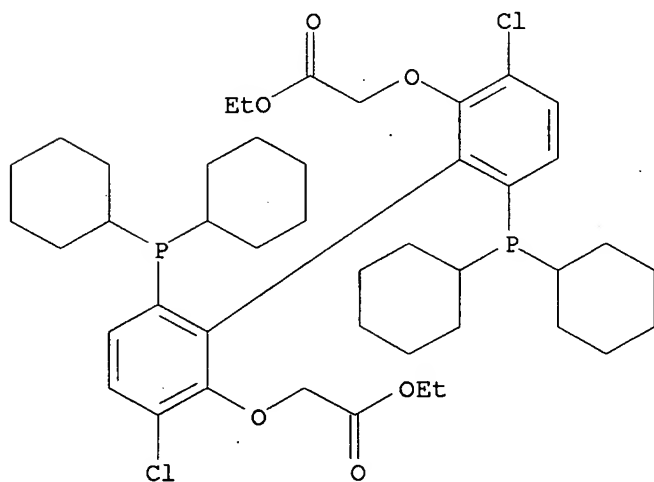


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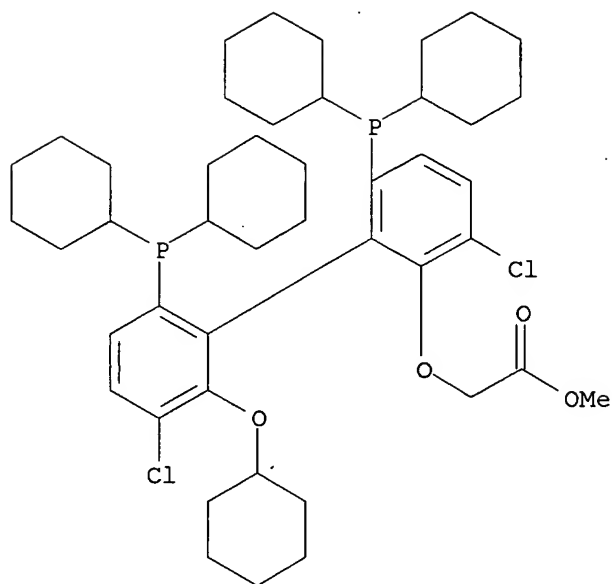
CN Acetic acid, 2,2'-[[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



RN 848078-38-6 CAPLUS
 CN Acetic acid, 2,2'-[[[(1S)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

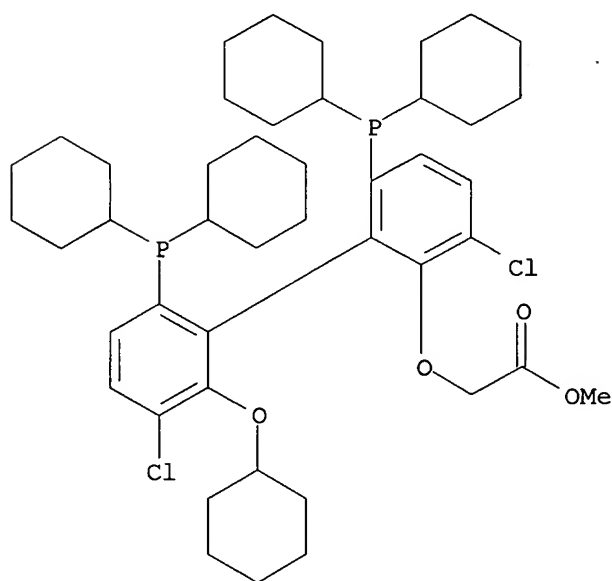


RN 848078-39-7 CAPLUS
 CN Acetic acid, [[[(1R)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



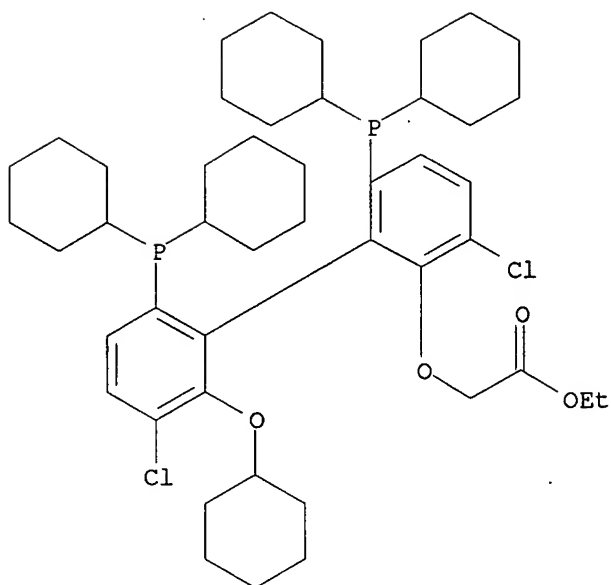
RN 848078-40-0 CAPLUS

CN Acetic acid, [[(1S)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI)
(CA INDEX NAME)

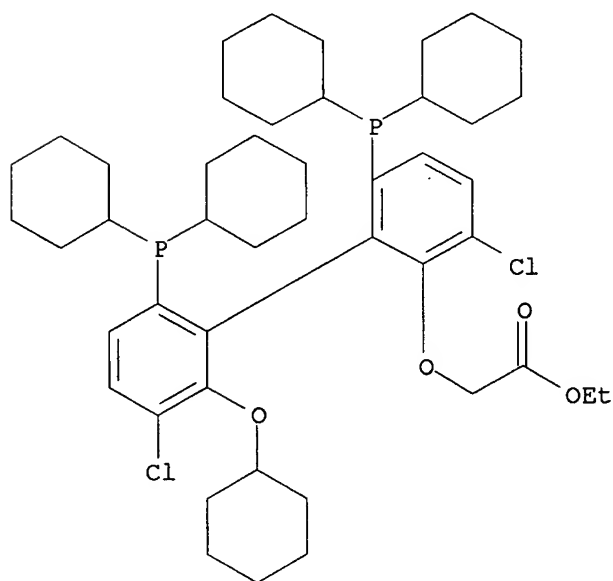


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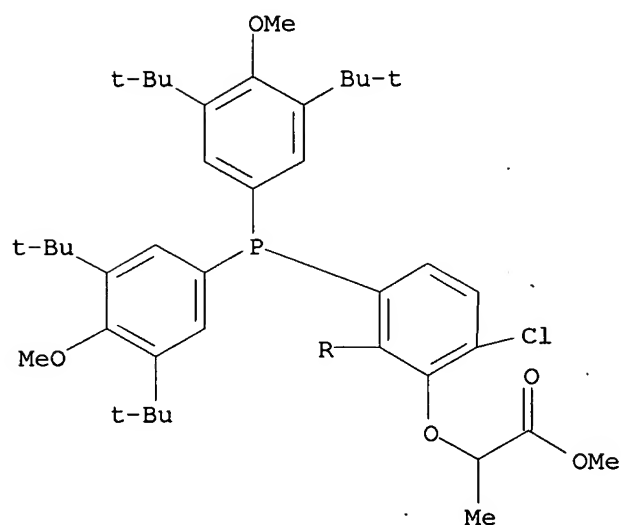
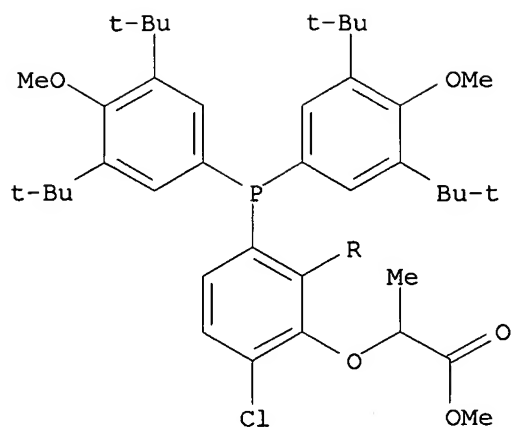
CN Acetic acid, [[(1R)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI)
(CA INDEX NAME)



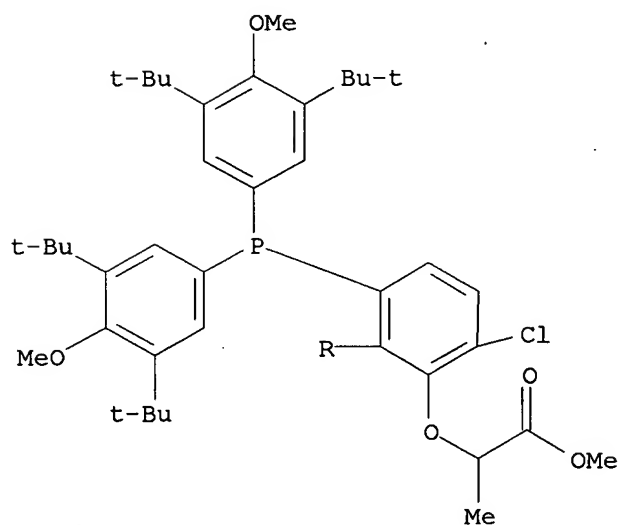
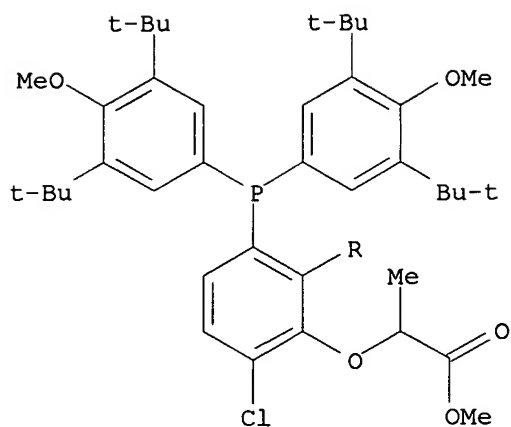
RN 848078-42-2 CAPLUS
 CN Acetic acid, [[(1S)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI)
 (CA INDEX NAME)



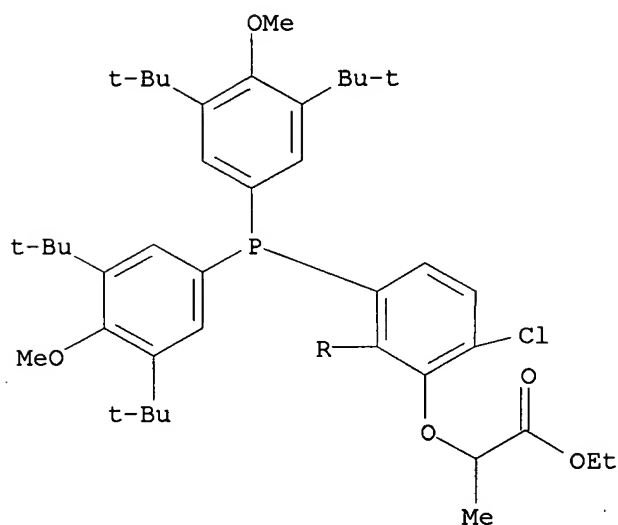
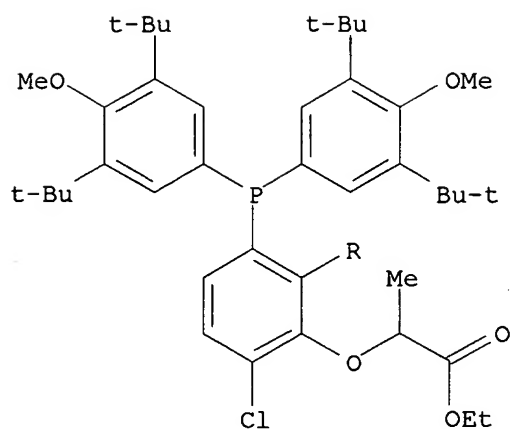
RN 848078-43-3 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



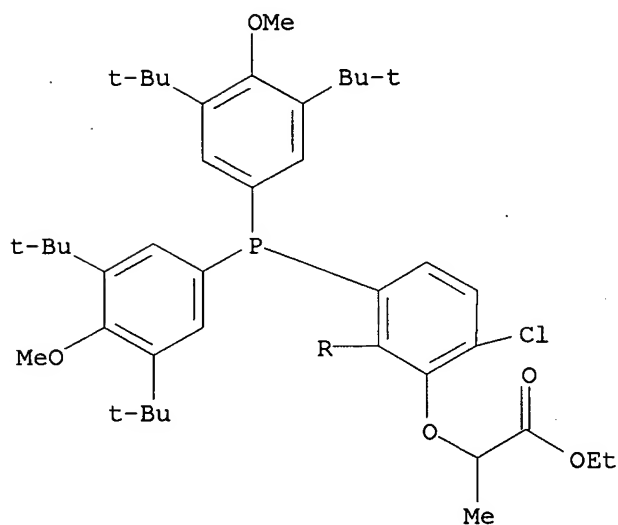
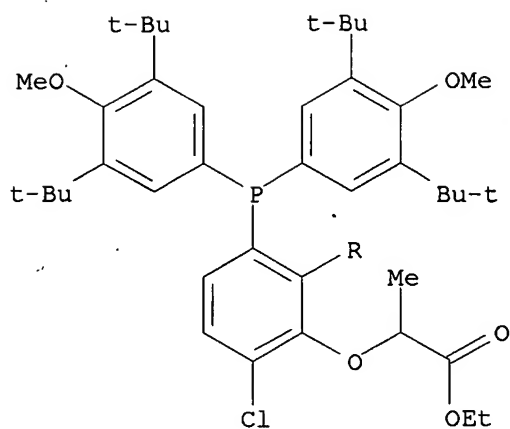
RN 848078-44-4 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



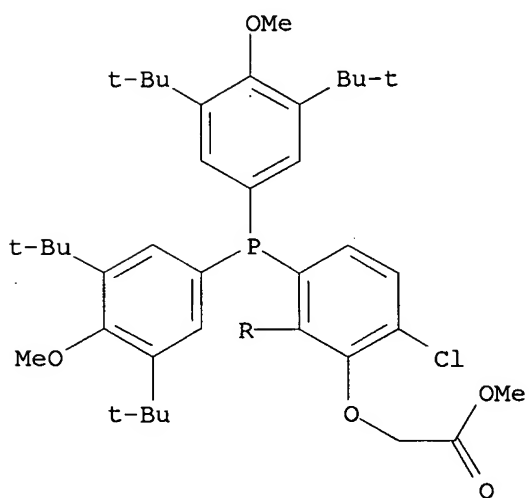
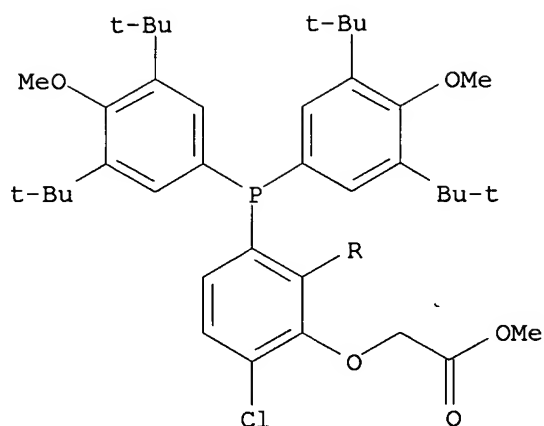
RN 848078-45-5 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



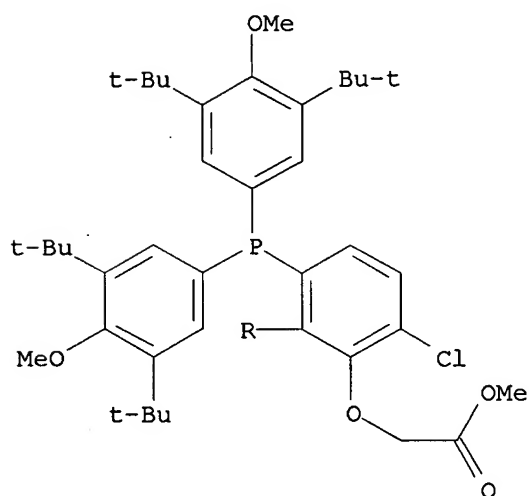
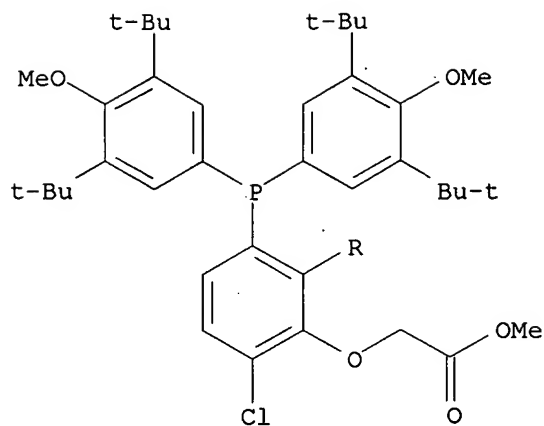
RN 848078-46-6 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



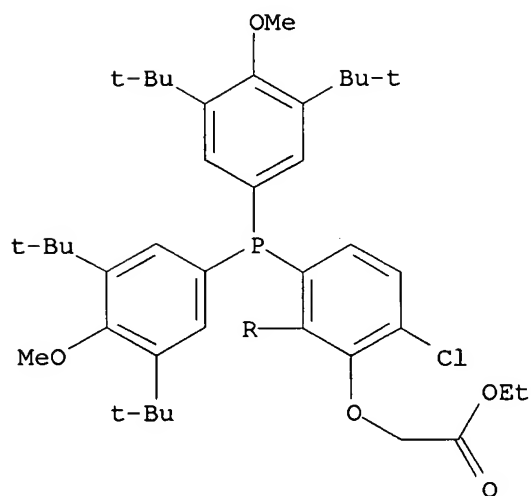
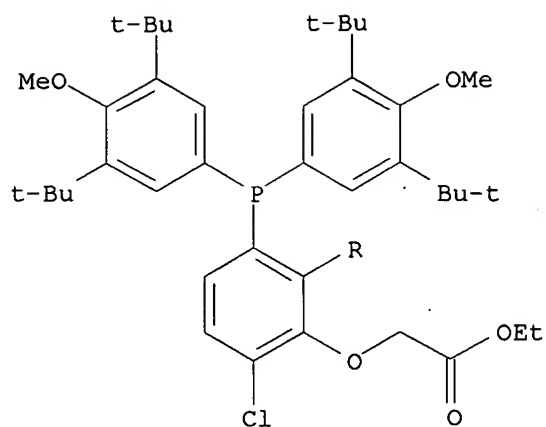
RN 848078-47-7 CAPLUS
 CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



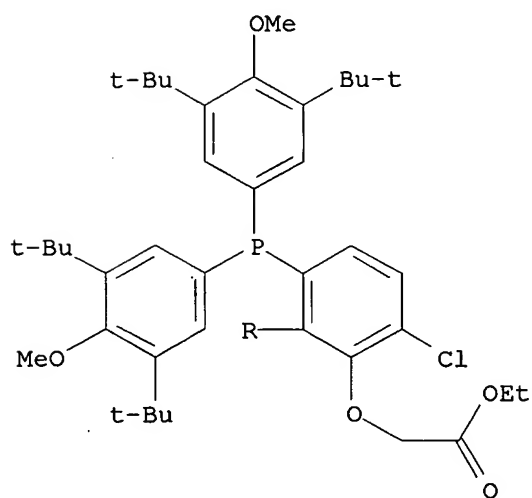
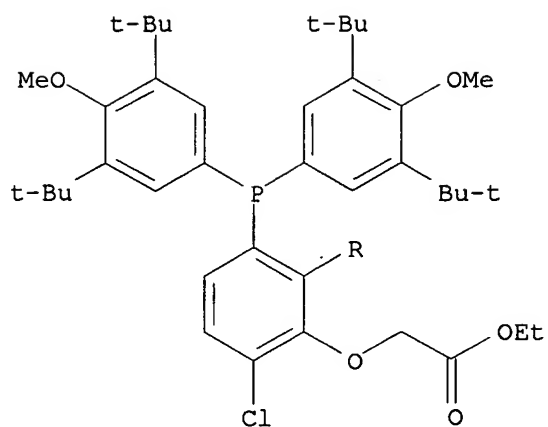
RN 848078-48-8 CAPLUS
 CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



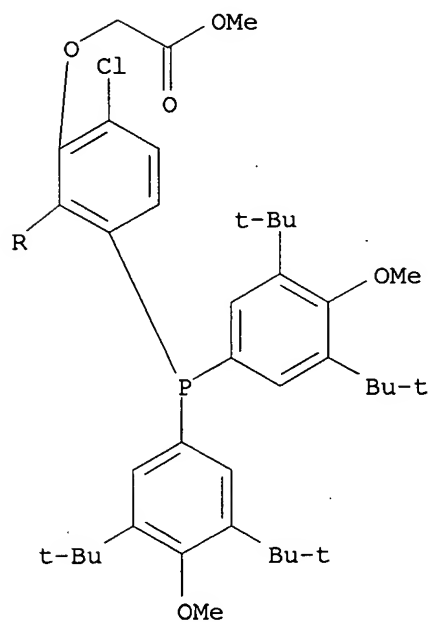
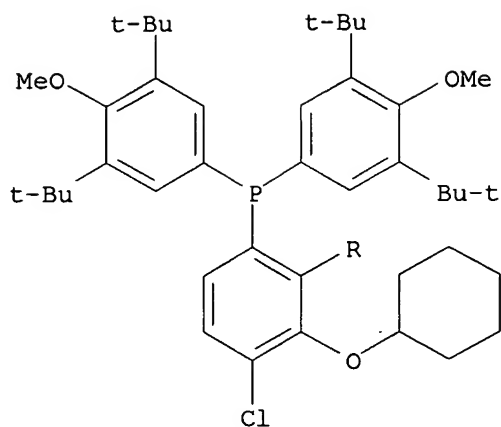
RN 848078-49-9 CAPLUS
 CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



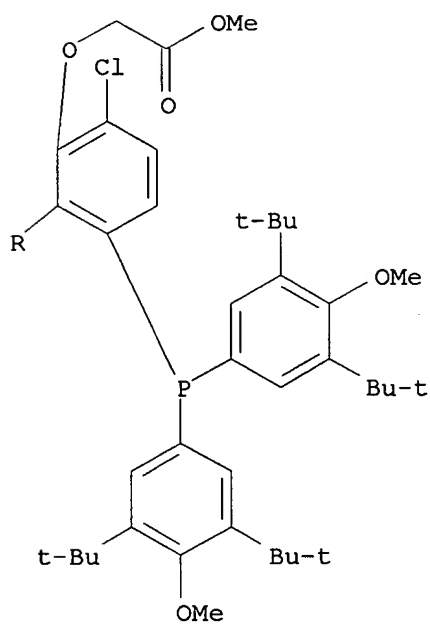
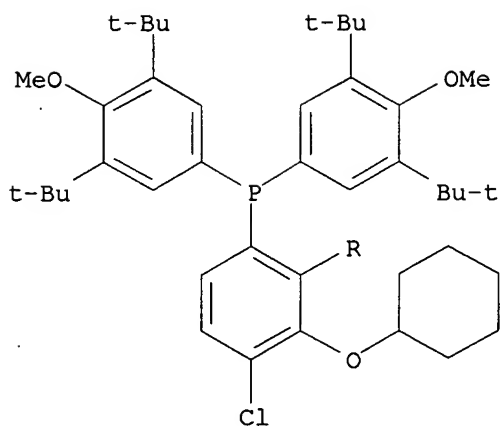
RN 848078-50-2 CAPLUS
 CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



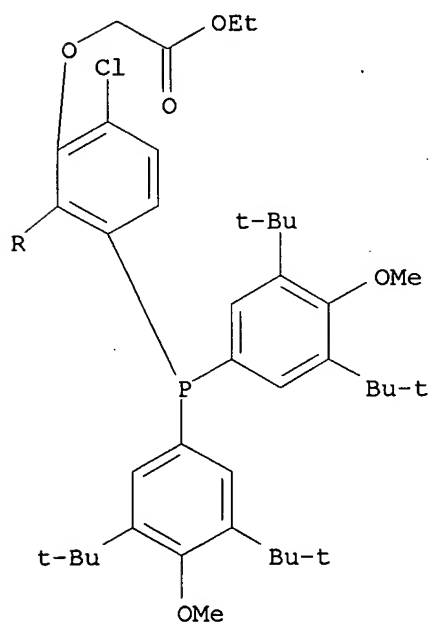
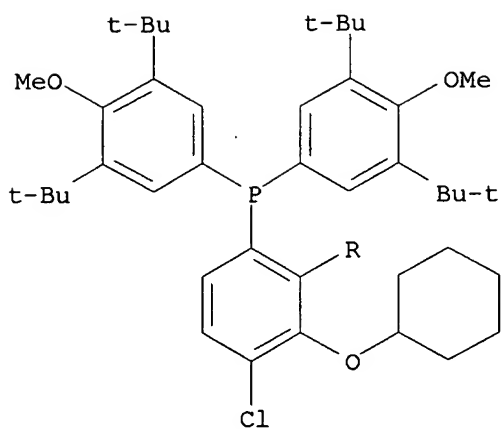
RN 848078-51-3 CAPLUS
 CN Acetic acid, [[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



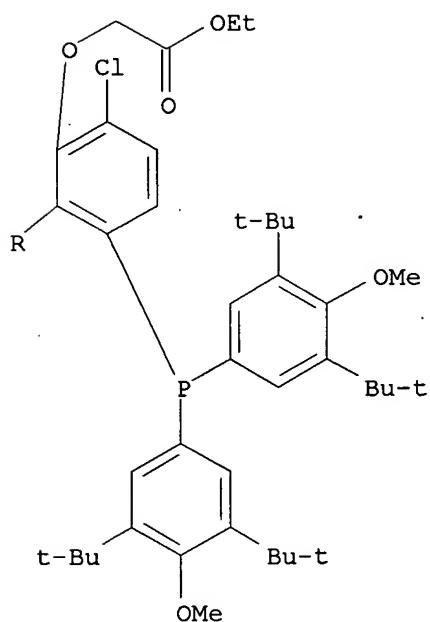
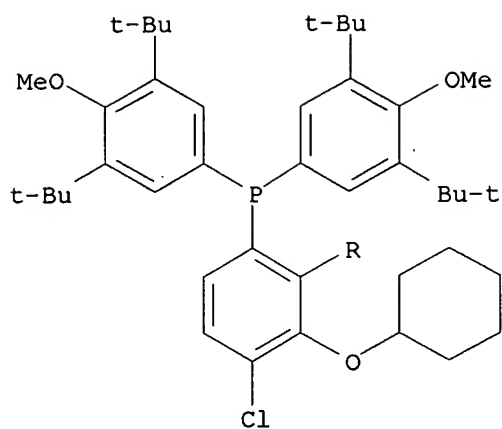
RN 848078-52-4 CAPLUS
 CN Acetic acid, [[[1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



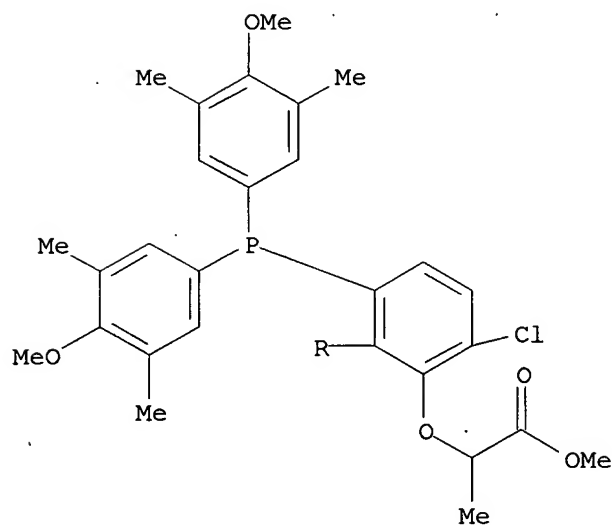
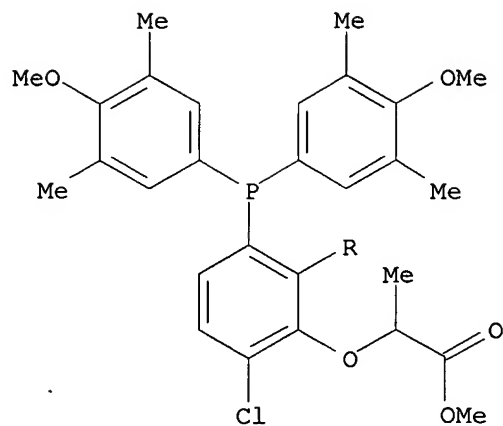
RN 848078-53-5 CAPLUS
 CN Acetic acid, [[[1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)



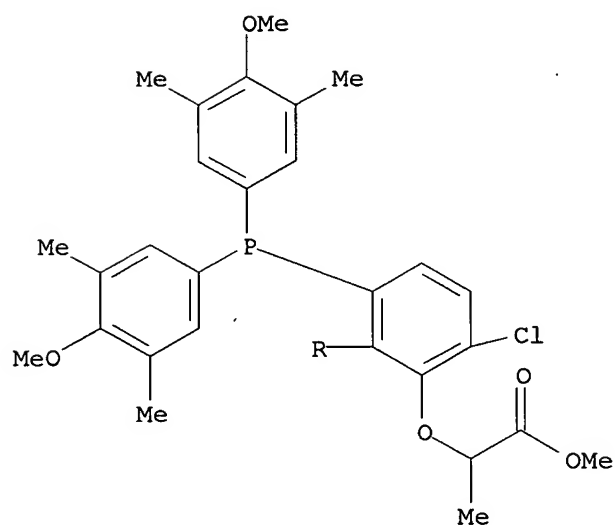
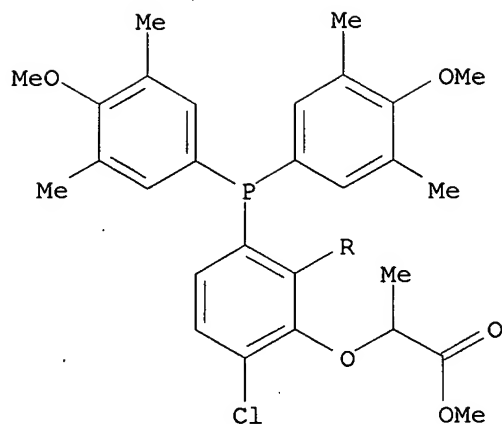
RN 848078-54-6 CAPLUS
 CN Acetic acid, [[[1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)



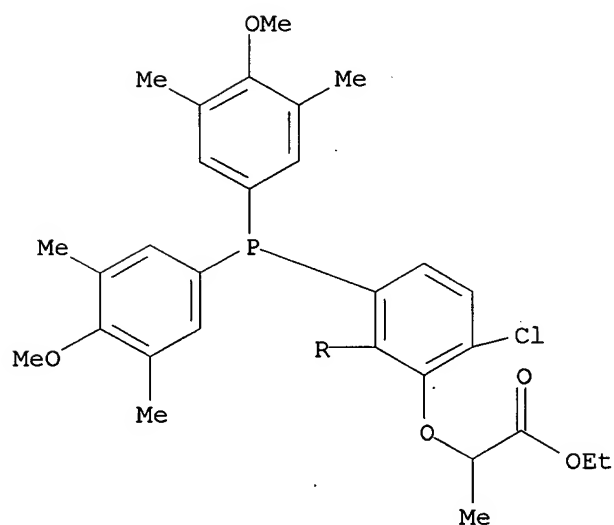
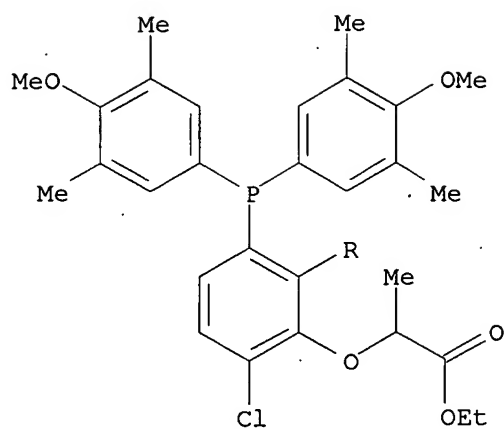
RN 848078-55-7 CAPLUS
 CN Propanoic acid, 2,2'-[[{(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



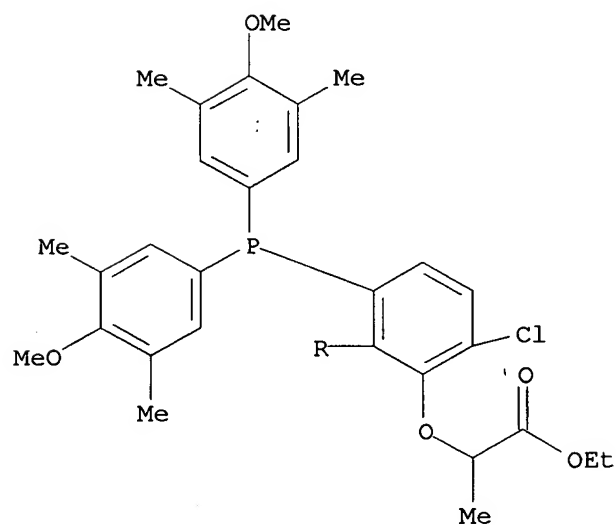
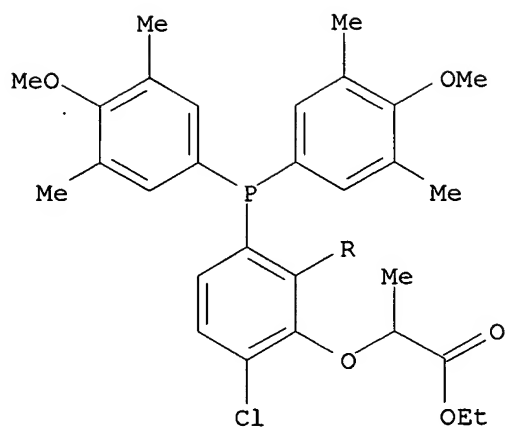
RN 848078-56-8 CAPLUS
 CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



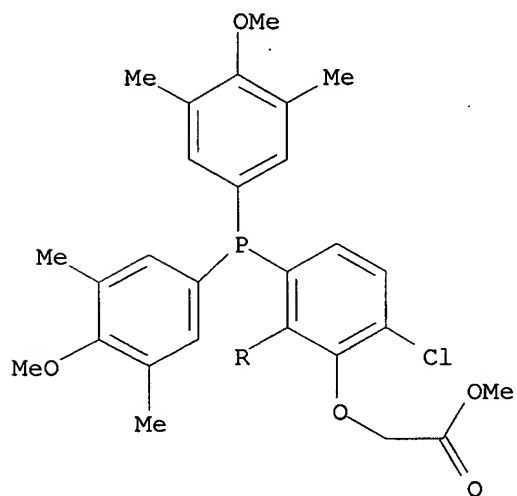
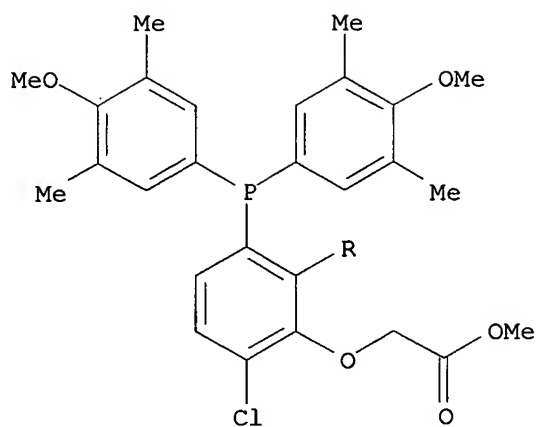
RN 848078-57-9 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



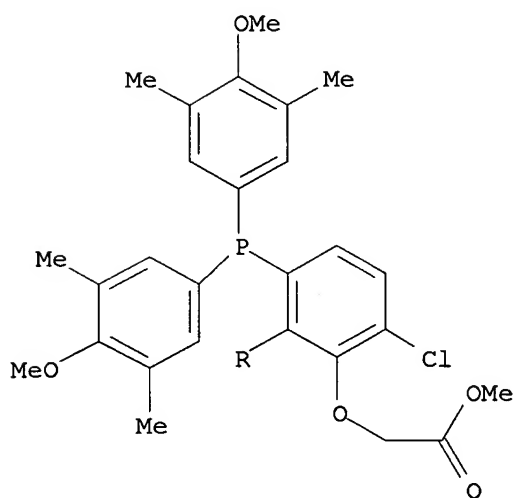
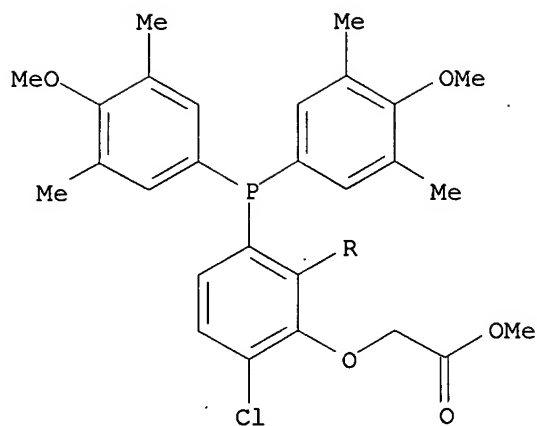
RN 848078-58-0 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



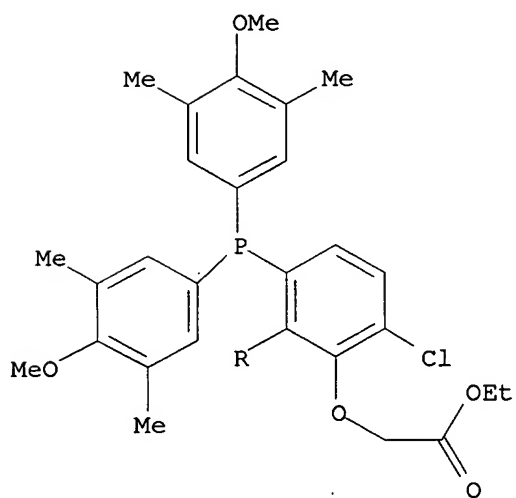
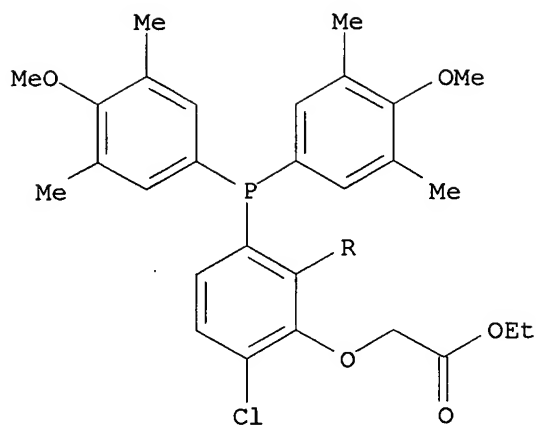
RN 848078-59-1 CAPLUS
 CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



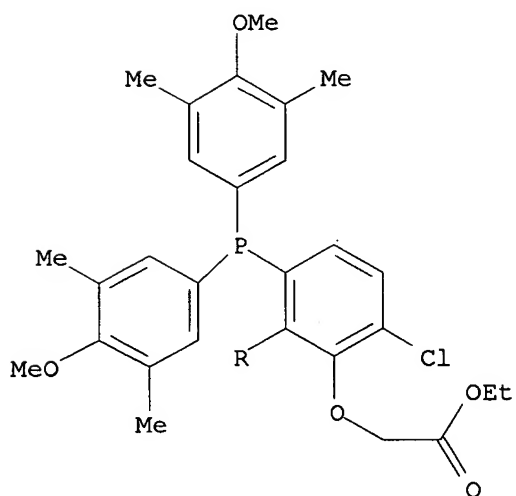
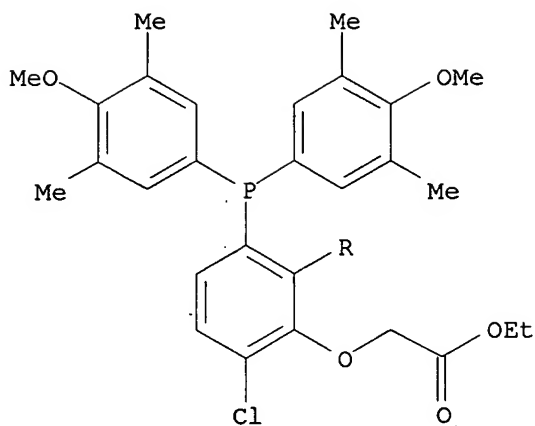
RN 848078-60-4 CAPLUS
 CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



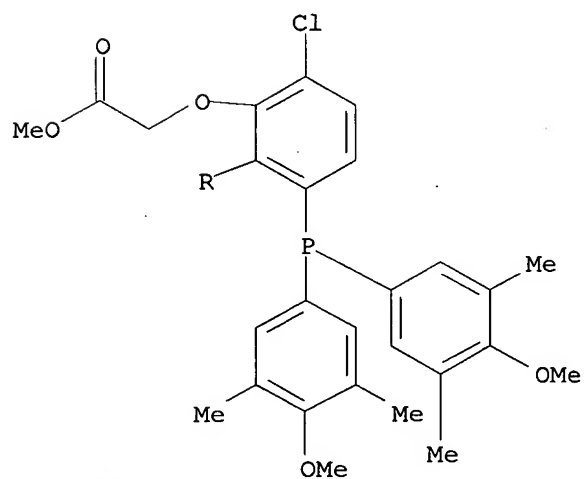
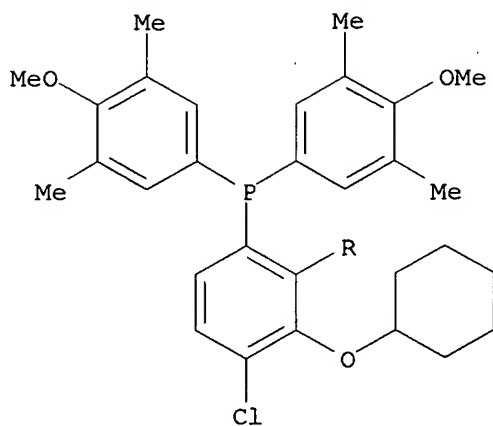
RN 848078-61-5 CAPLUS
 CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



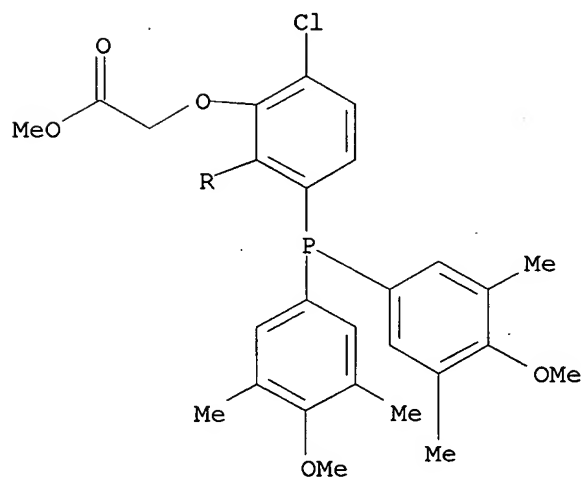
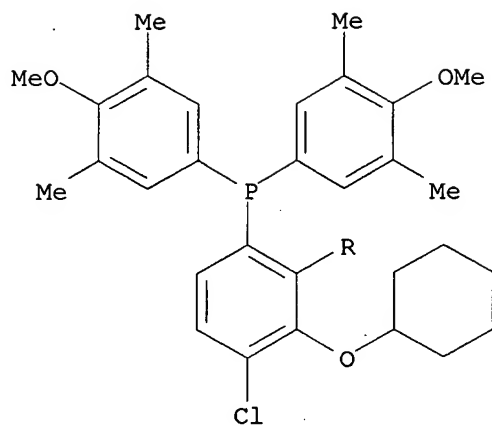
RN 848078-62-6 CAPLUS
 CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



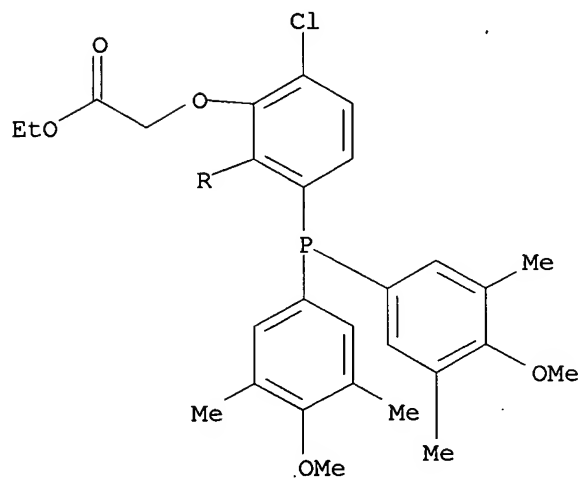
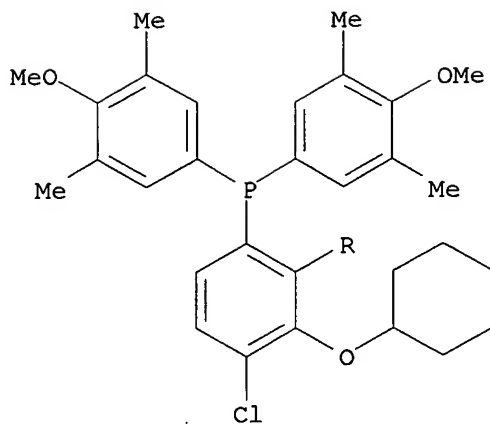
RN 848078-63-7 CAPLUS
 CN Acetic acid, [[[1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



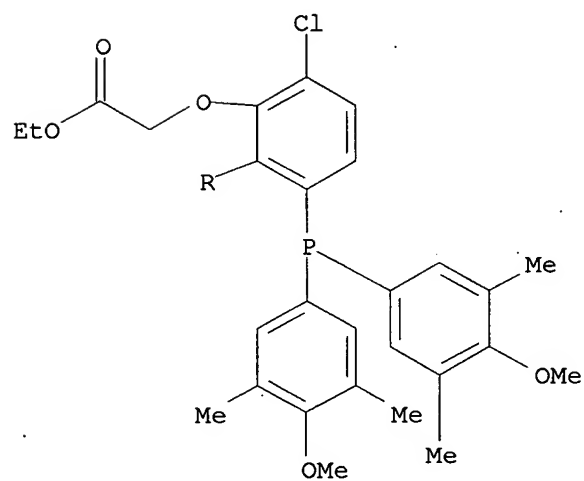
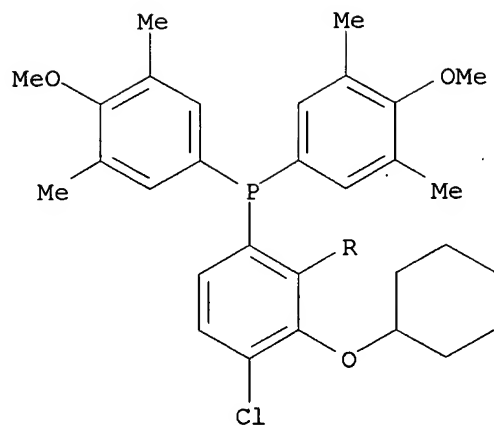
RN 848078-64-8 CAPLUS .
 CN Acetic acid, [[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



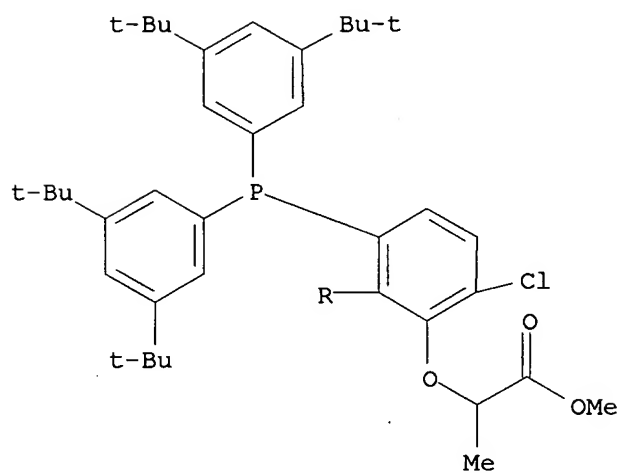
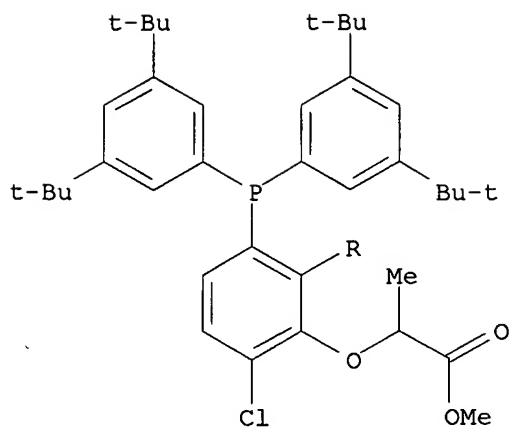
RN 848078-65-9 CAPLUS
 CN Acetic acid, [[[1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)



RN 848078-66-0 CAPLUS
 CN Acetic acid, [[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

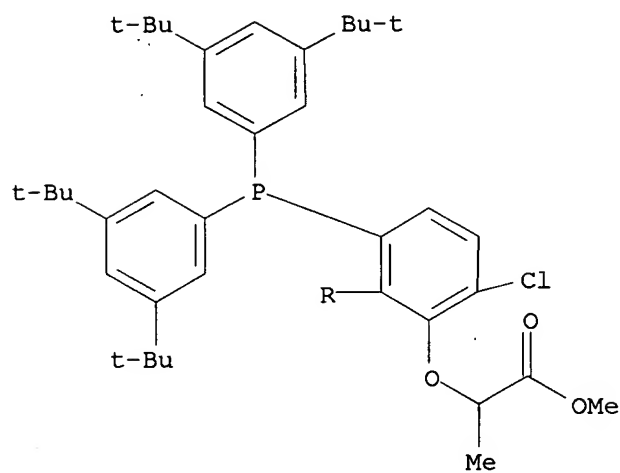
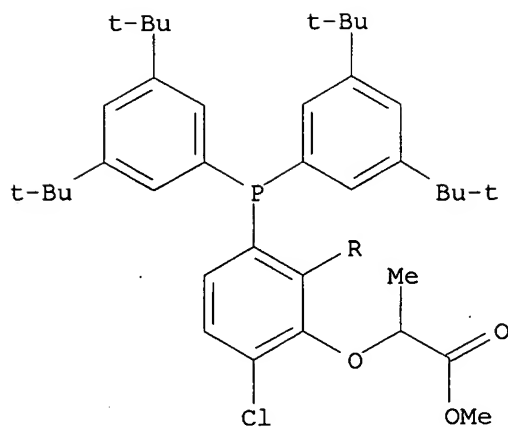


RN 848078-67-1 CAPLUS
 CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

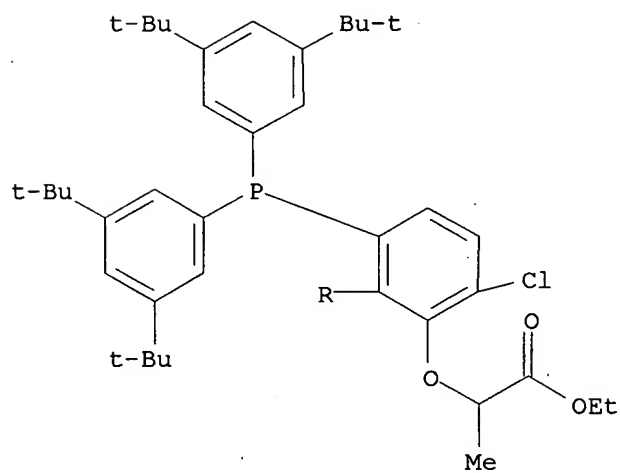
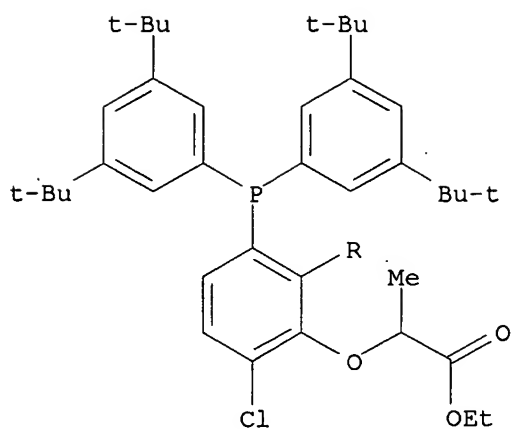


RN 848078-68-2 CAPLUS

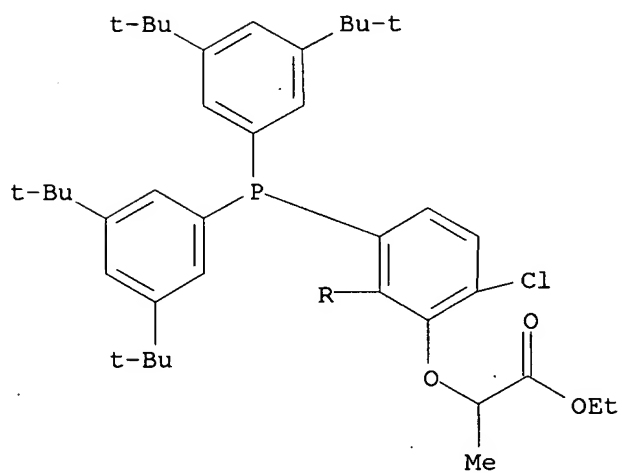
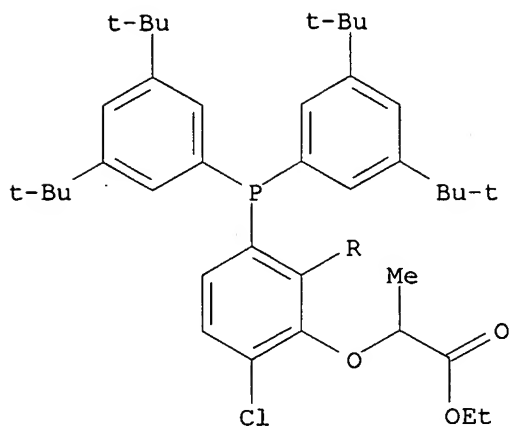
CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



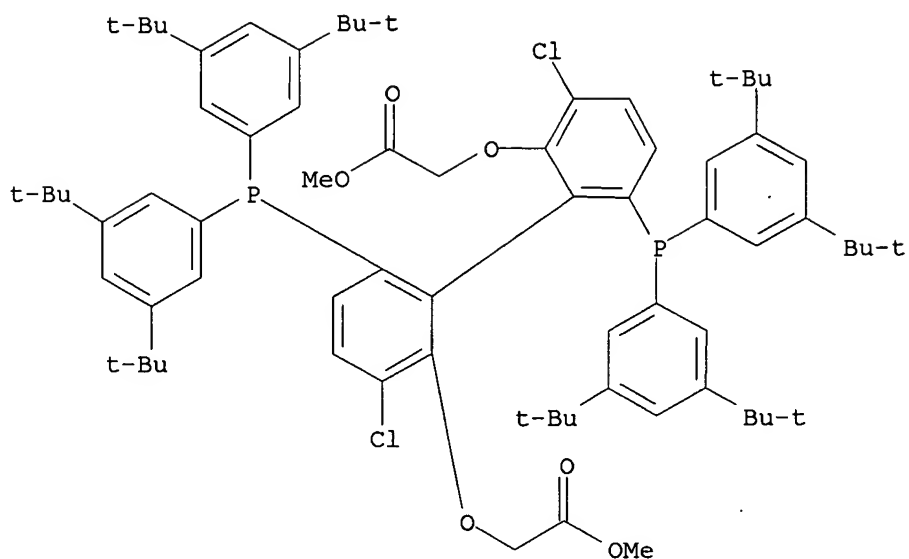
RN 848078-69-3 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



RN 848078-70-6 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

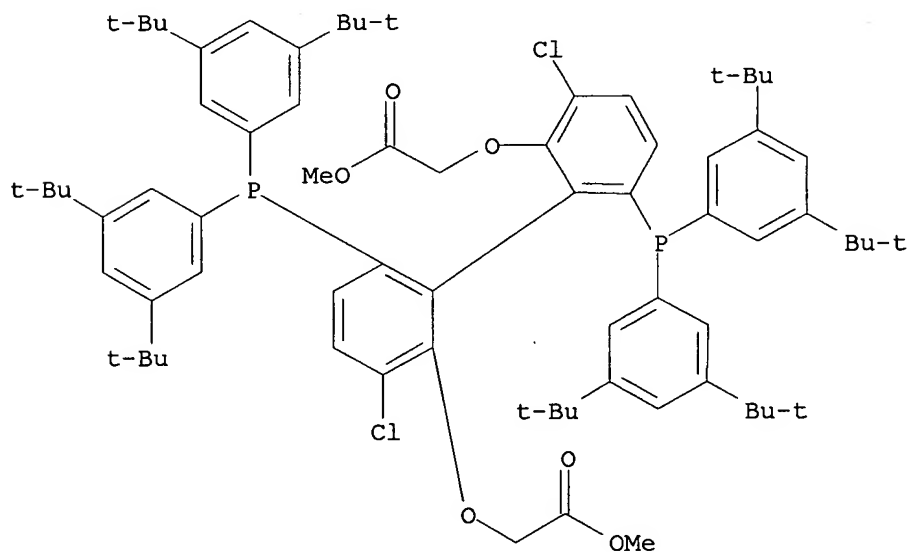


RN 848078-71-7 CAPLUS
 CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



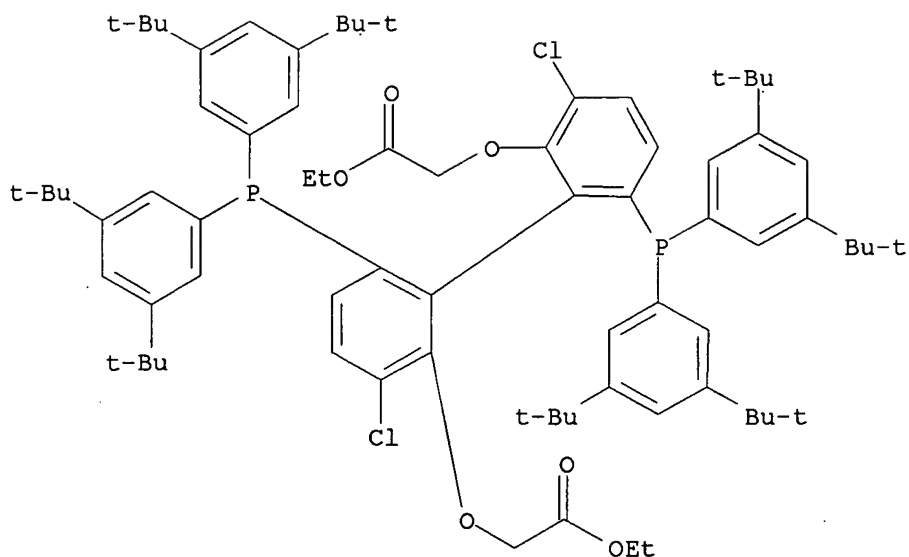
RN 848078-72-8 CAPLUS

CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



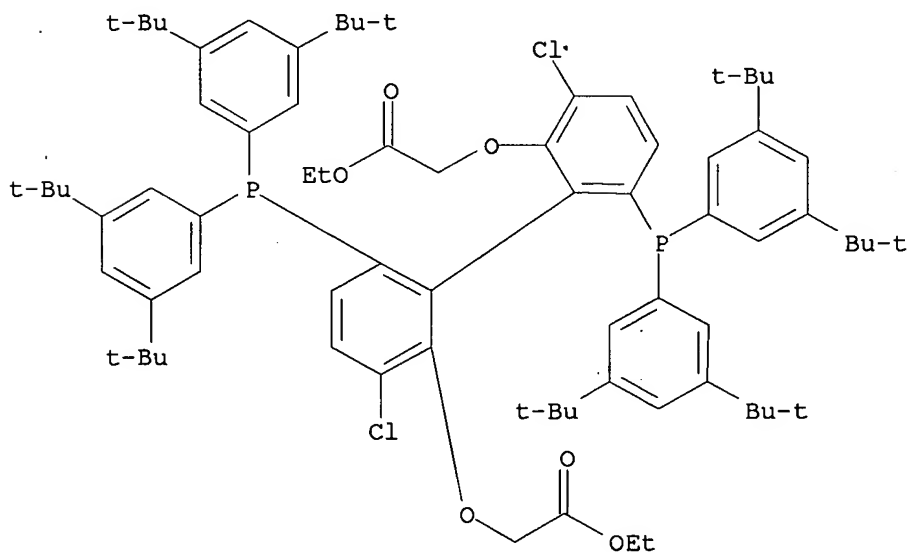
RN 848078-73-9 CAPLUS

CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



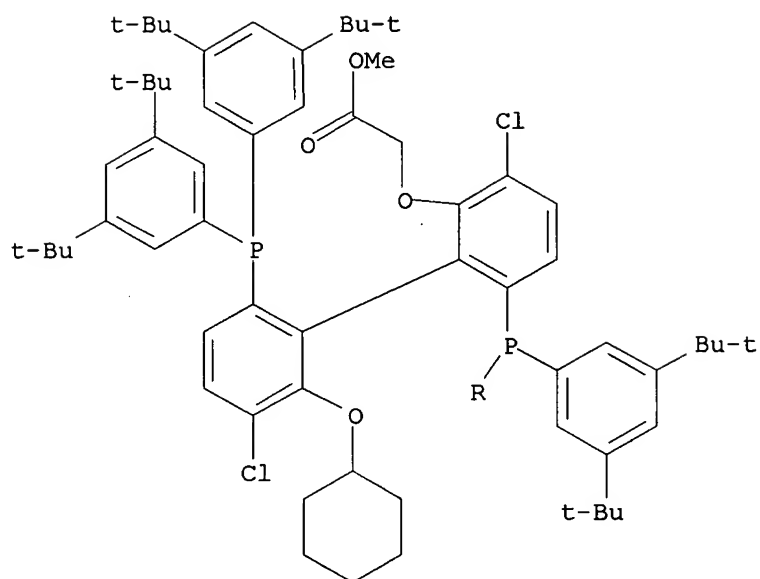
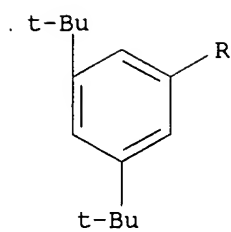
RN 848078-74-0 CAPLUS

CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

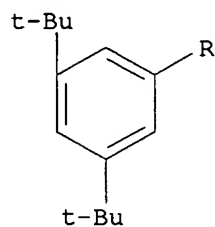


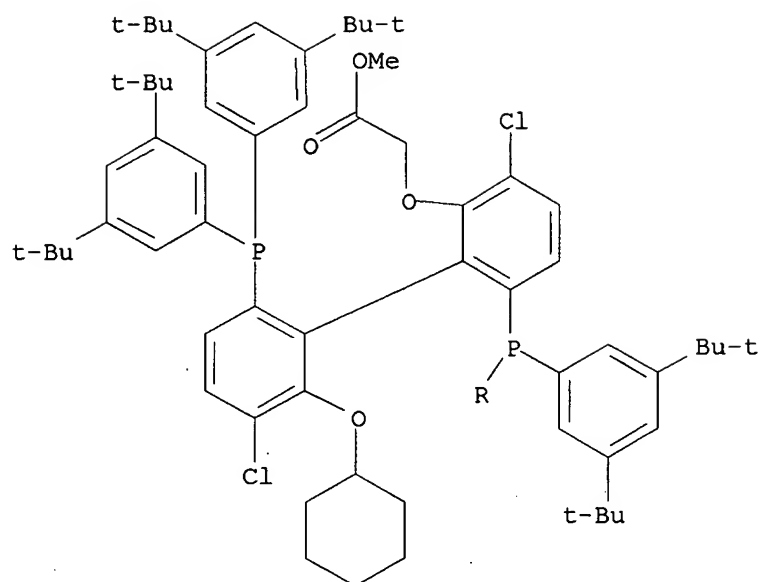
RN 848078-75-1 CAPLUS

CN Acetic acid, [[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

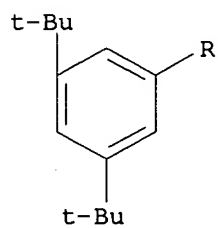


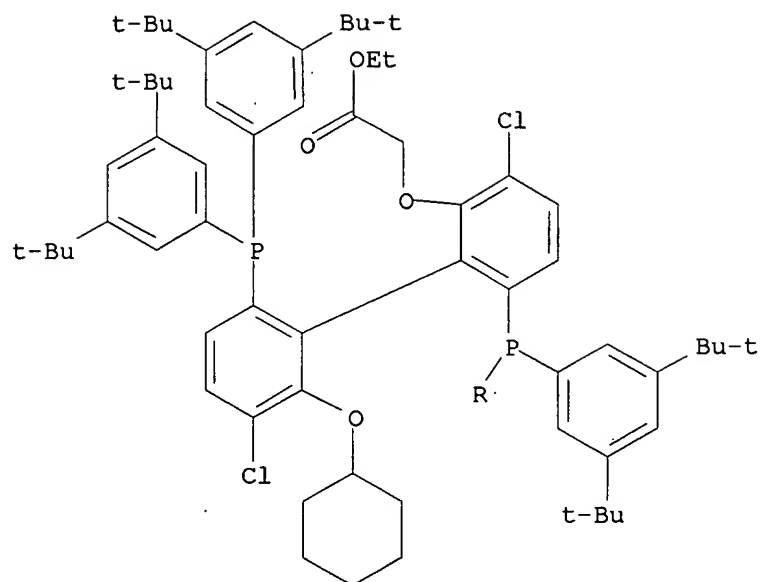
RN 848078-76-2 CAPLUS
 CN Acetic acid, [[[1S]-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



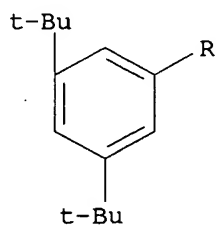


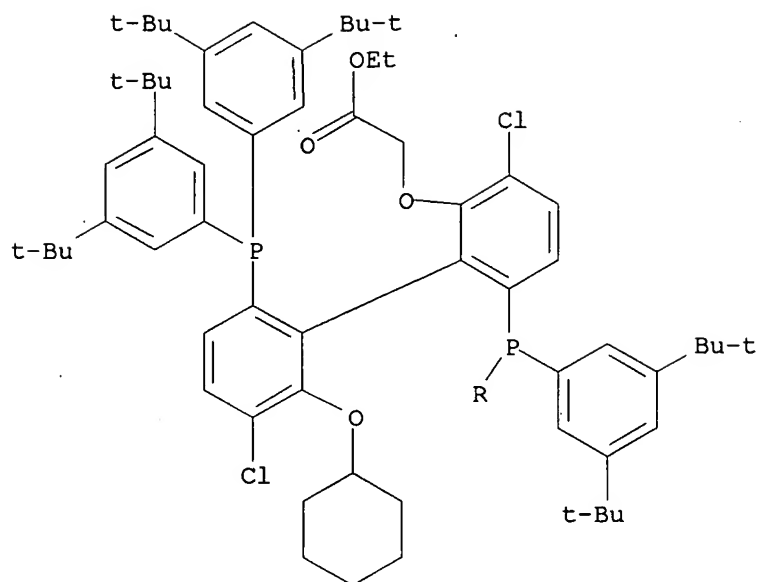
RN 848078-77-3 CAPLUS
 CN Acetic acid, [[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)



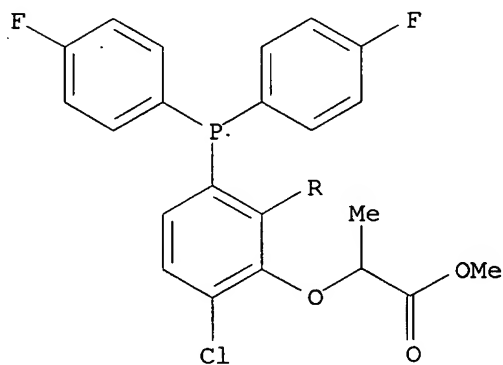


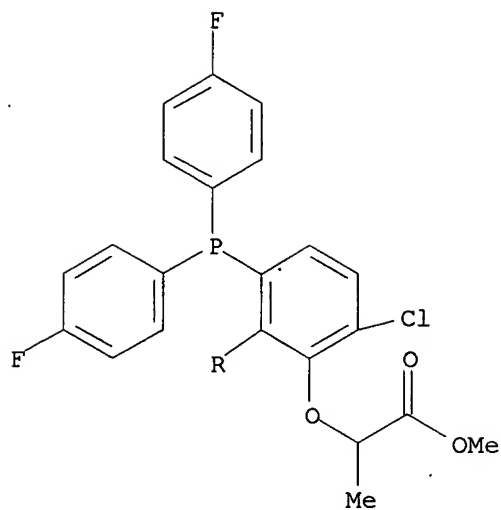
RN 848078-78-4 CAPLUS
CN Acetic acid, [[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)



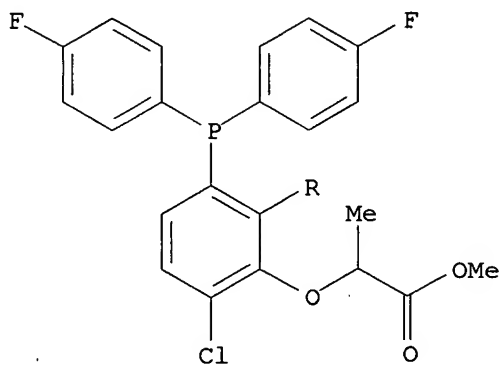


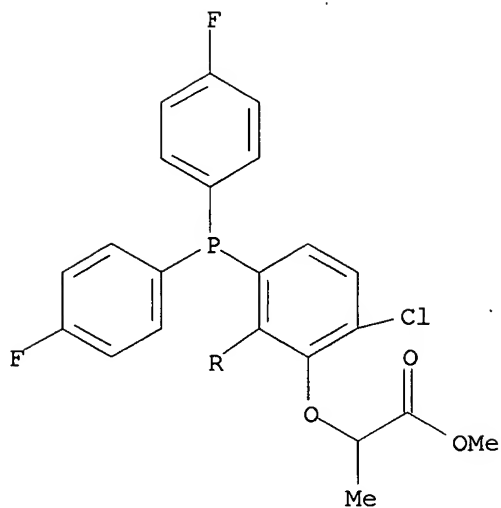
RN 848078-79-5 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



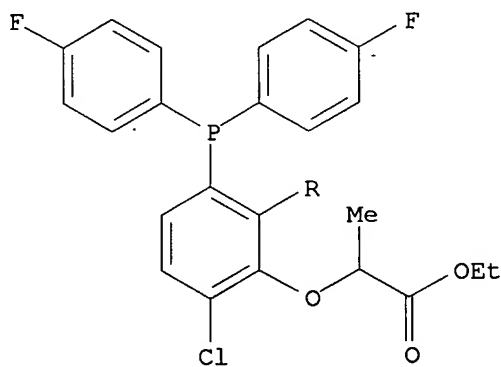


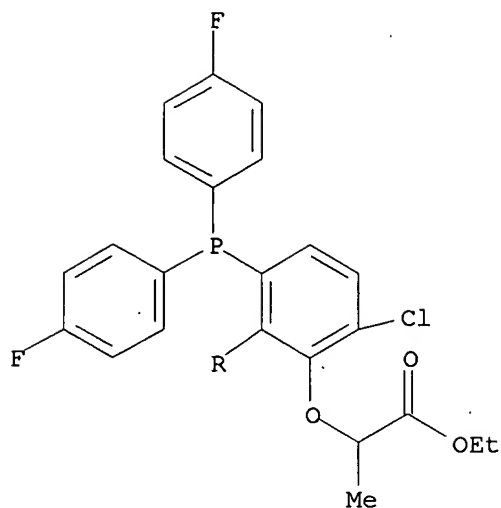
RN 848078-80-8 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-
 dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA
 INDEX NAME)



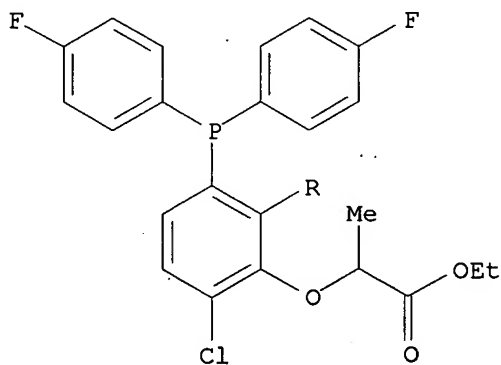


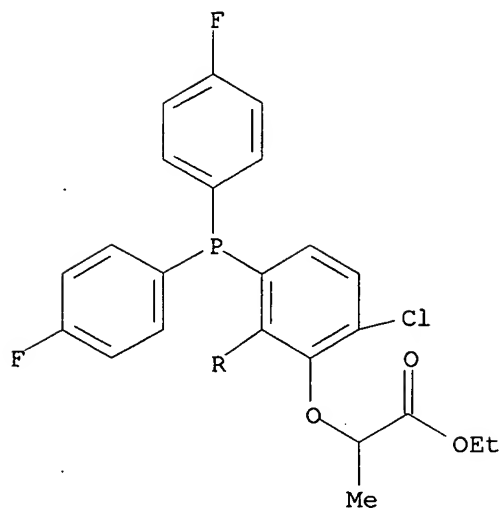
RN 848078-81-9 CAPLUS
 CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



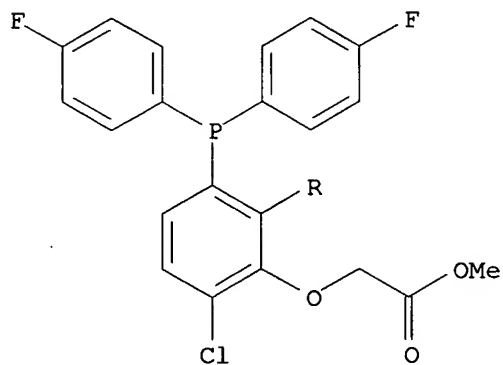


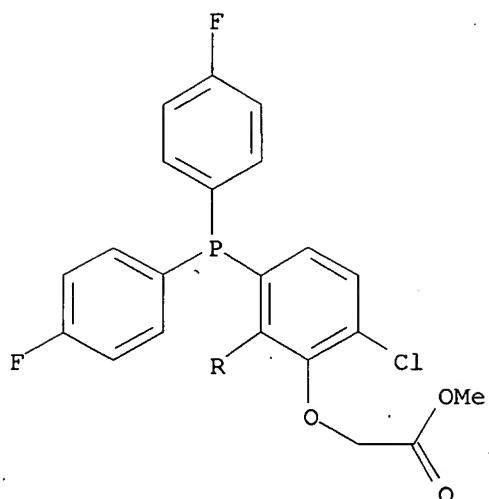
RN 848078-82-0 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



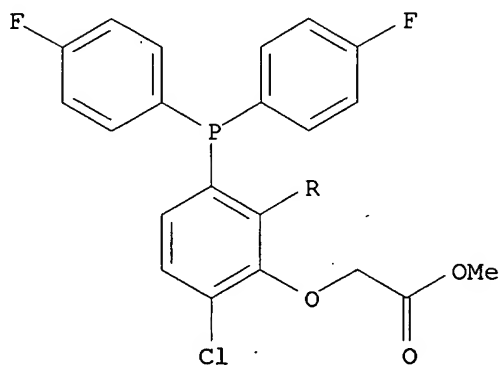


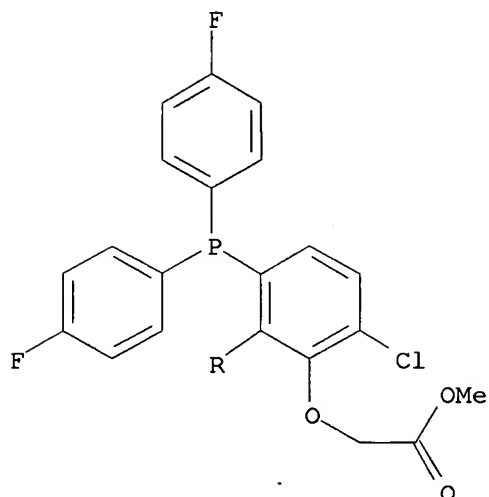
RN 848078-83-1 CAPLUS
 CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



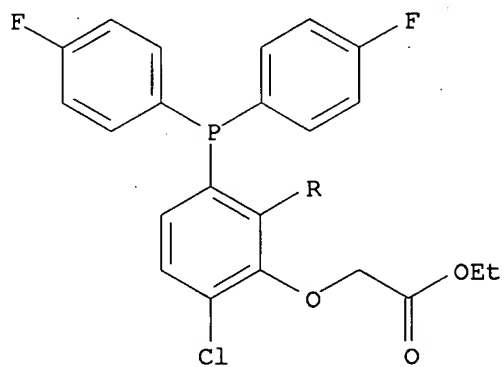


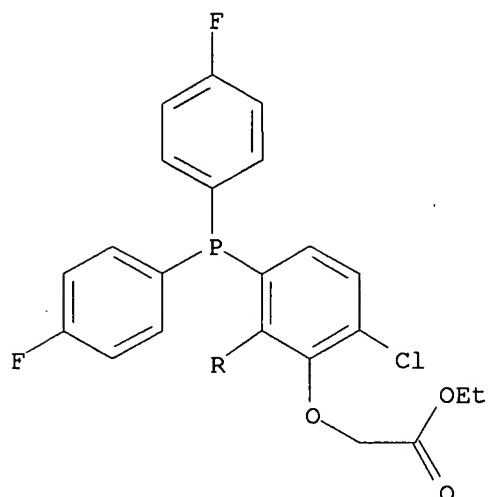
RN 848078-84-2 CAPLUS
 CN Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-
 dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA
 INDEX NAME)



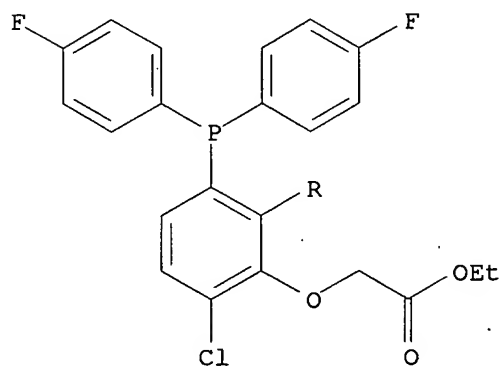


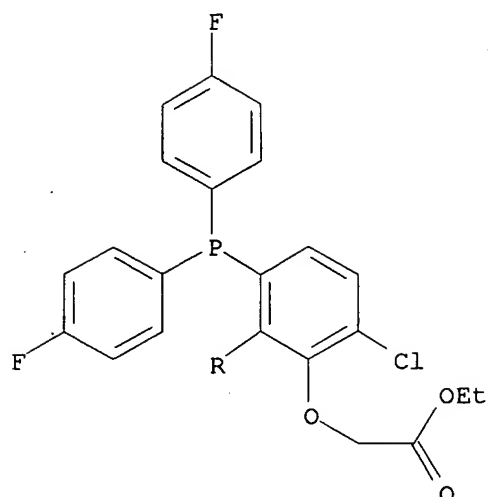
RN 848078-85-3 CAPLUS
 CN Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-
 dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA
 INDEX NAME)



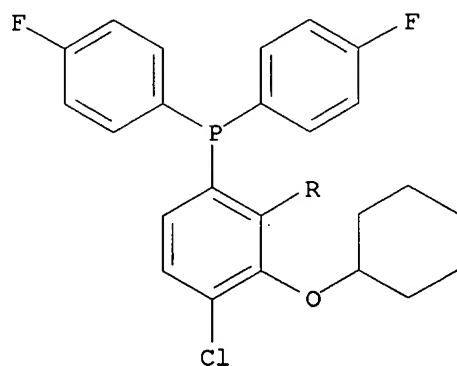


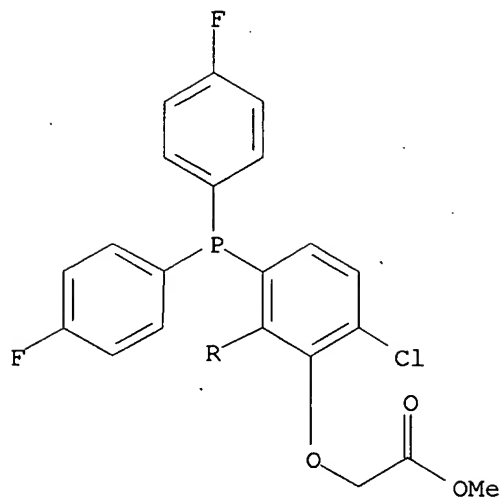
RN 848078-86-4 CAPLUS
 CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



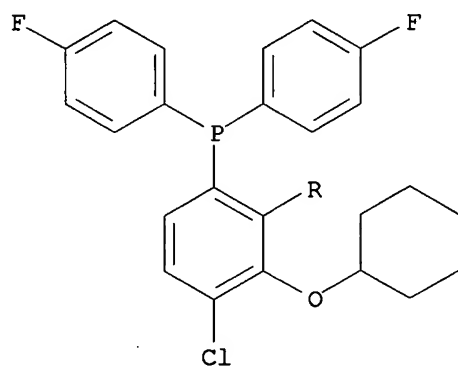


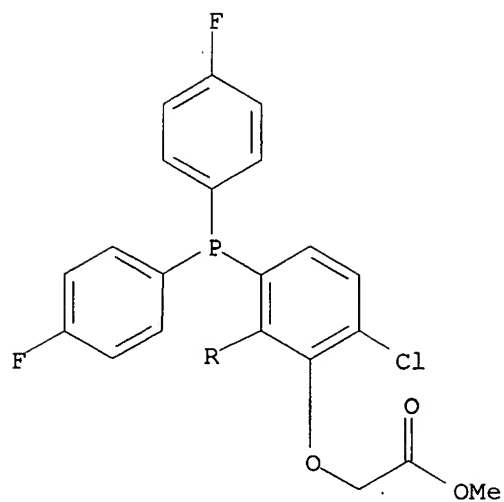
RN 848078-87-5 CAPLUS
 CN Acetic acid, [[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



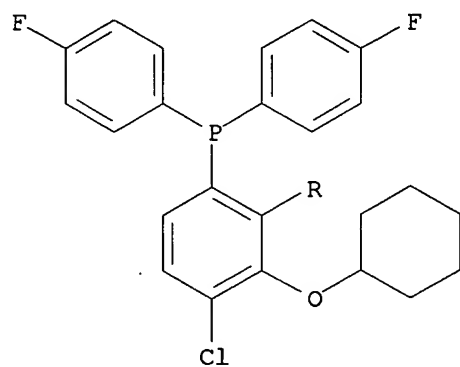


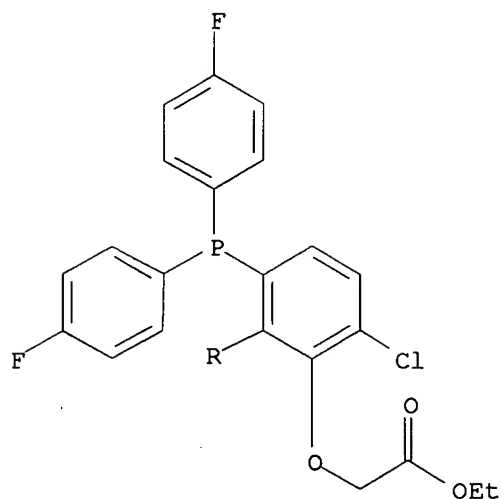
RN 848078-88-6 CAPLUS
 CN Acetic acid, [[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



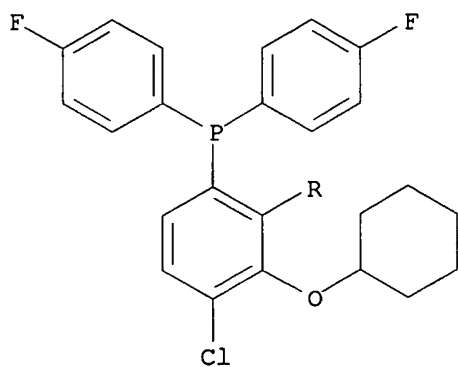


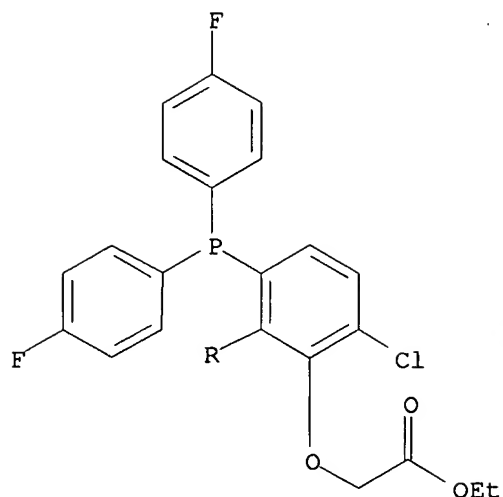
RN 848078-89-7 CAPLUS
 CN Acetic acid, [[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)





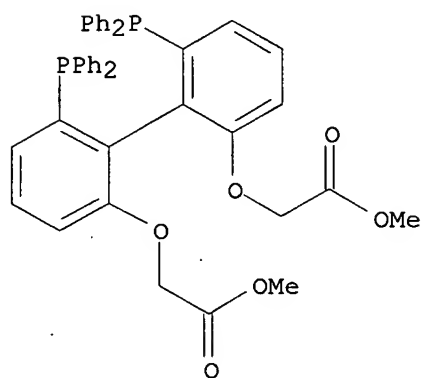
RN 848078-90-0 CAPLUS
 CN Acetic acid, [[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)





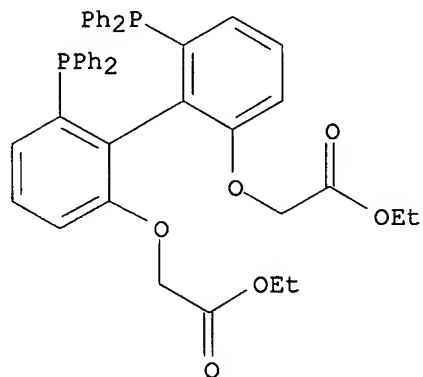
RN 848078-91-1 CAPLUS

CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



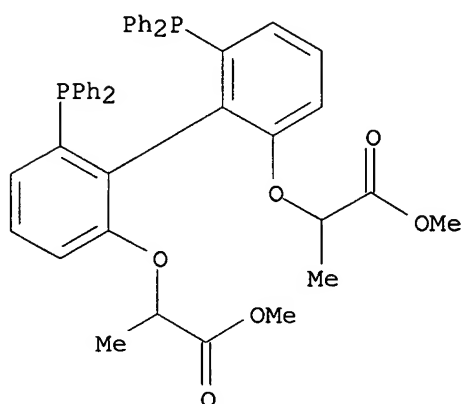
RN 848078-92-2 CAPLUS

CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



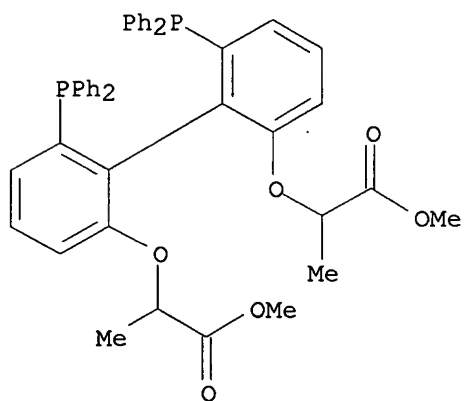
RN 848078-93-3 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



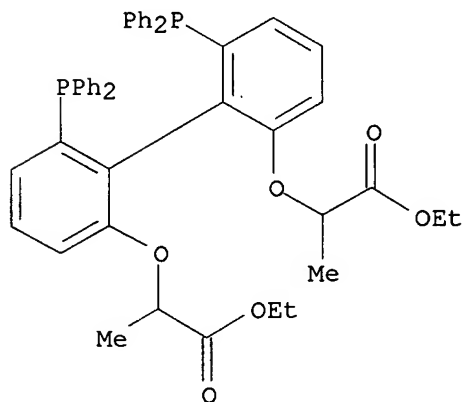
RN 848078-94-4 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



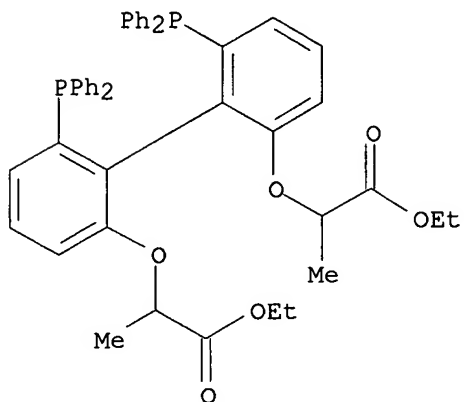
RN 848078-95-5 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



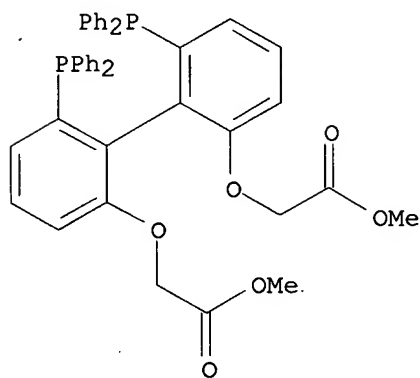
RN 848078-96-6 CAPLUS

CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



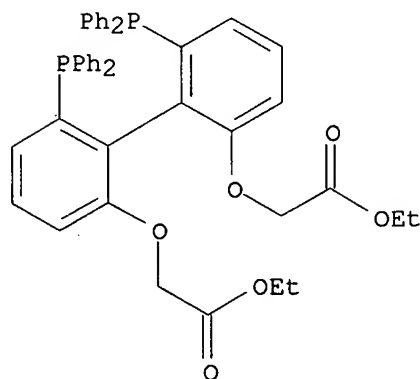
RN 848078-97-7 CAPLUS

CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



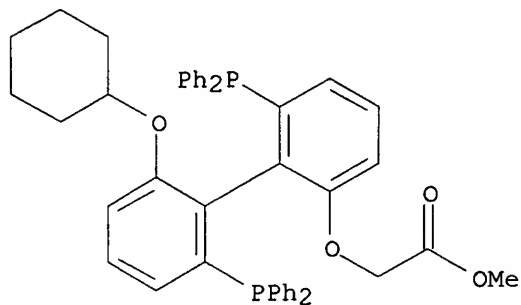
RN 848078-98-8 CAPLUS

CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



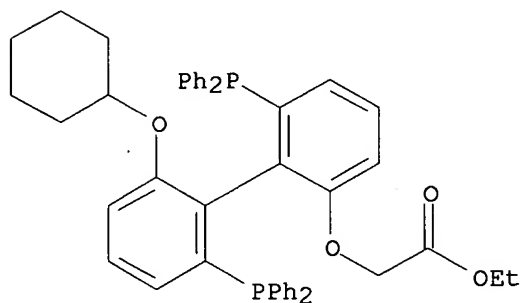
RN 848078-99-9 CAPLUS

CN Acetic acid, [[[1R)-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



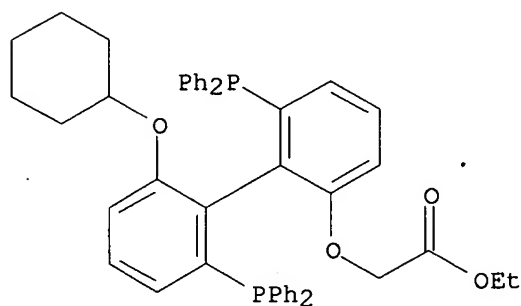
RN 848079-00-5 CAPLUS

CN Acetic acid, [[[1R)-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)



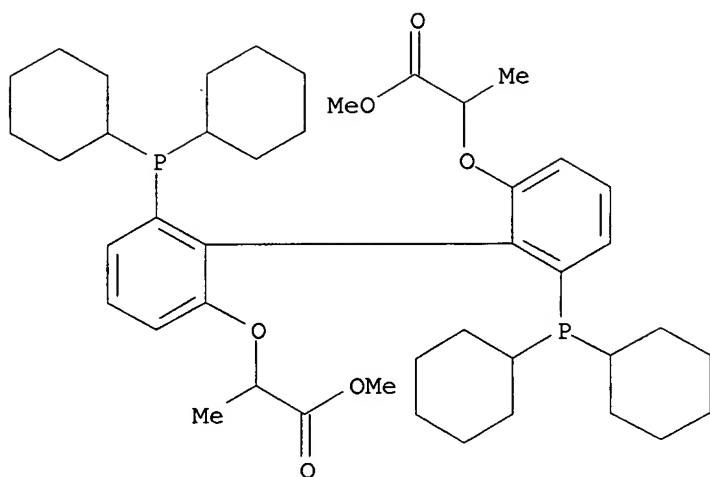
RN 848079-01-6 CAPLUS

CN Acetic acid, [[[1S)-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)



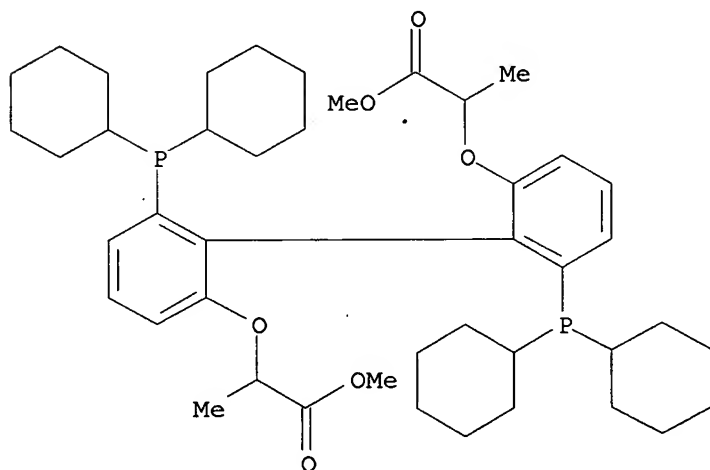
RN 848079-02-7 CAPLUS

CN Propanoic acid, 2,2'-[[[(1R)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



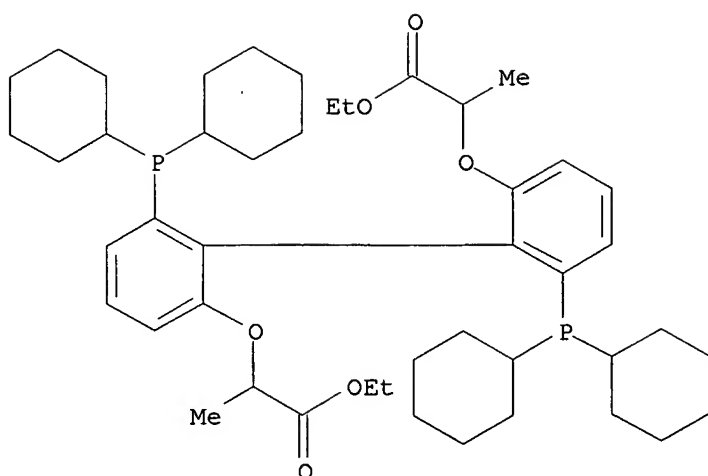
RN 848079-03-8 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

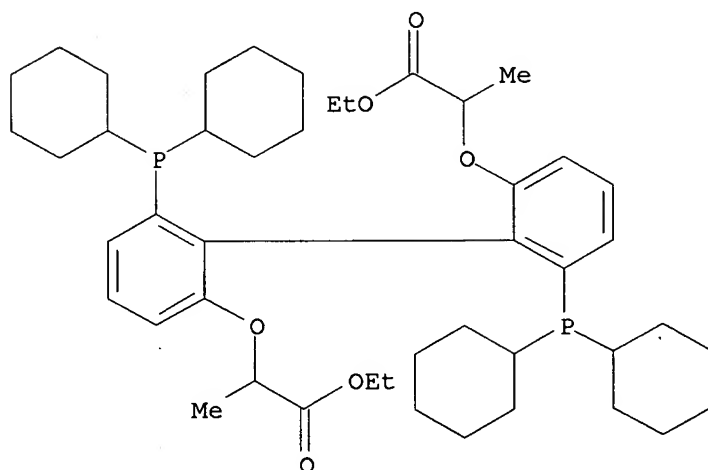


RN 848079-04-9 CAPLUS

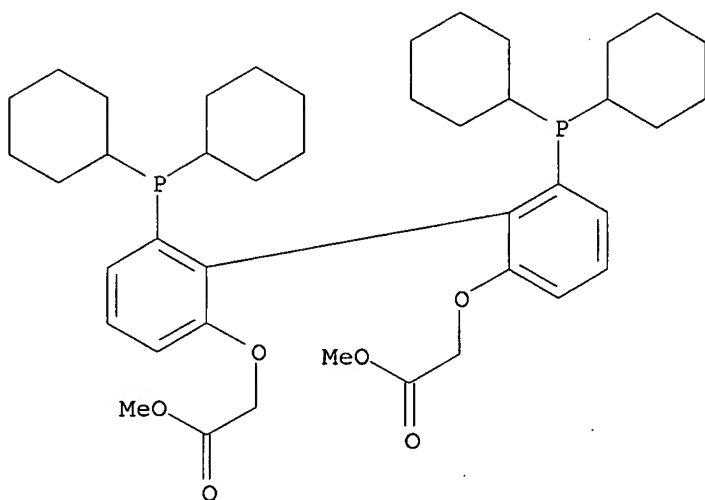
CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



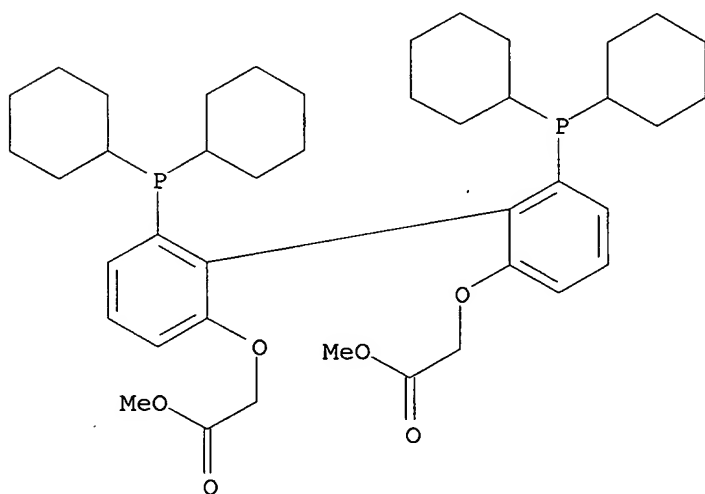
RN 848079-05-0 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



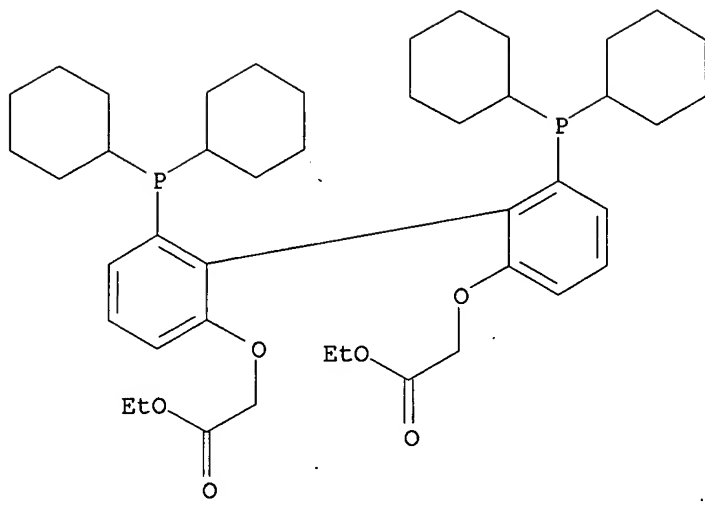
RN 848079-06-1 CAPLUS
 CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



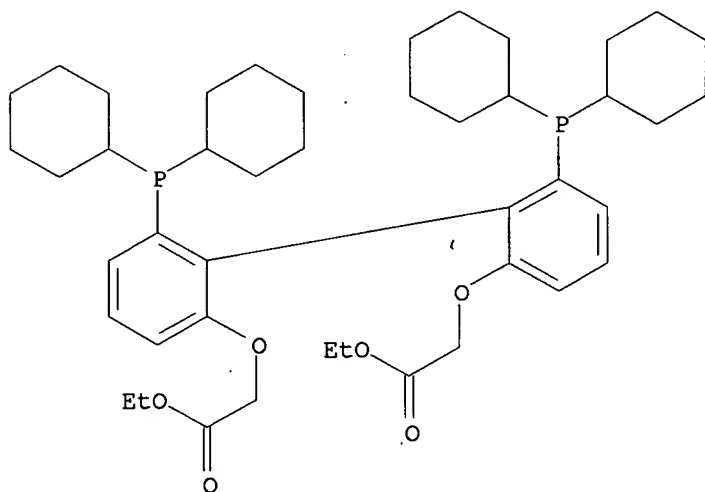
RN 848079-07-2 CAPLUS
 CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



RN 848079-08-3 CAPLUS
 CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

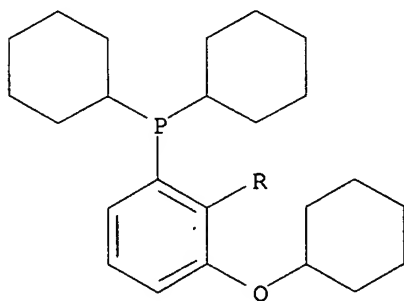


RN 848079-09-4 CAPLUS
 CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

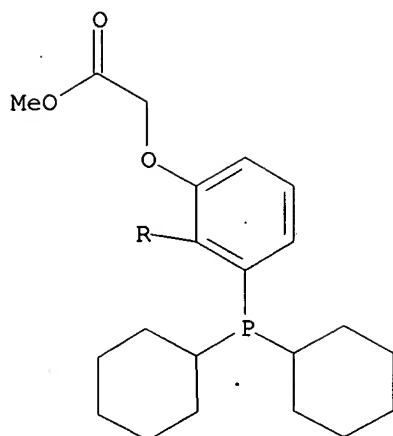


RN 848079-10-7 CAPLUS
 CN Acetic acid, [[[(1R)-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

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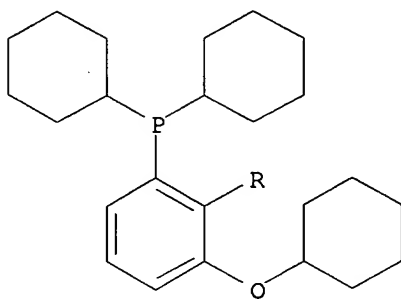


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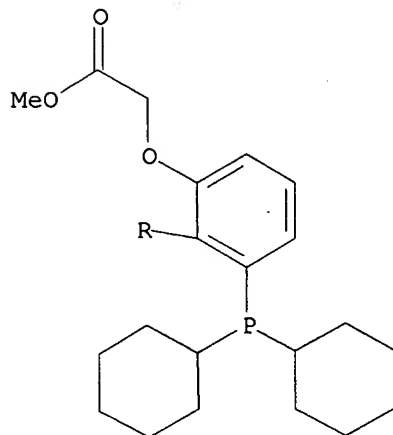


RN 848079-11-8 CAPLUS
CN Acetic acid, [[[1S)-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

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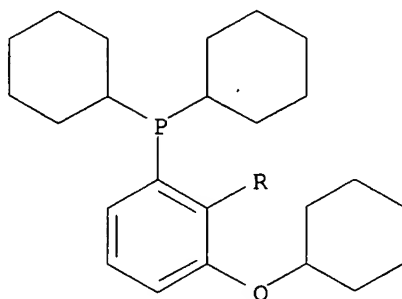


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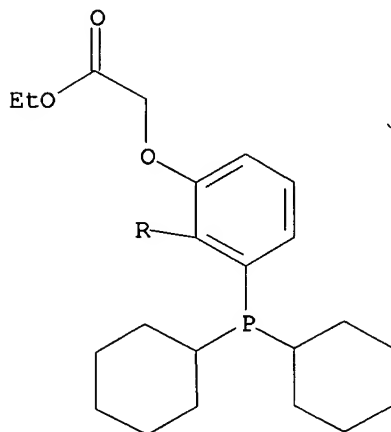


RN 848079-12-9 CAPLUS
CN Acetic acid, [[(1R)-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

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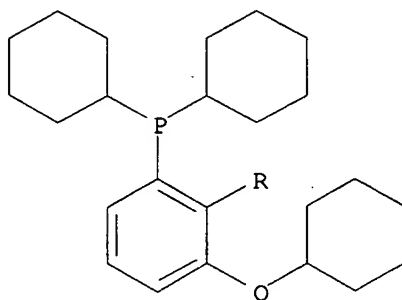


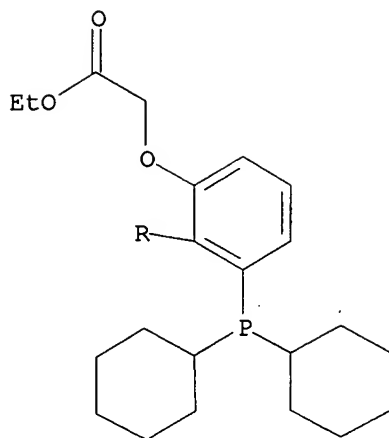
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RN 848079-13-0 CAPLUS
CN Acetic acid, [[(1S)-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

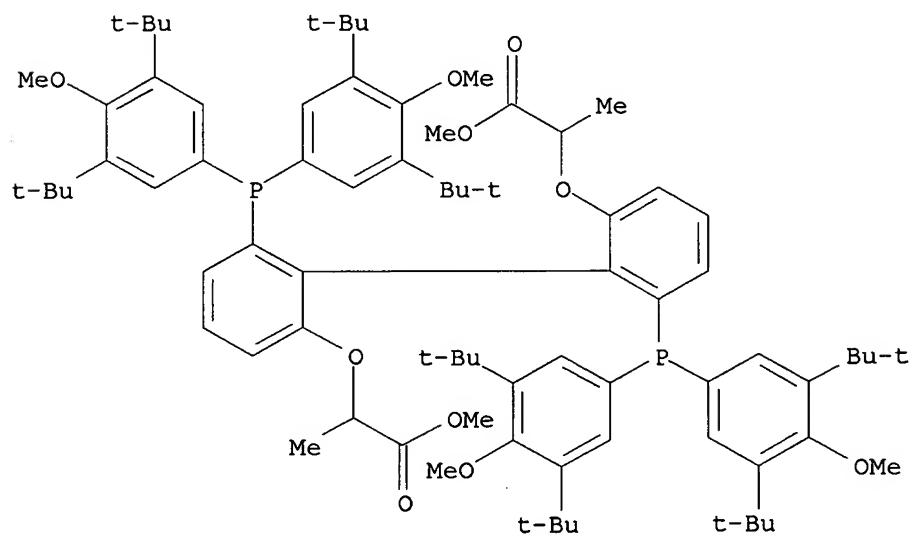
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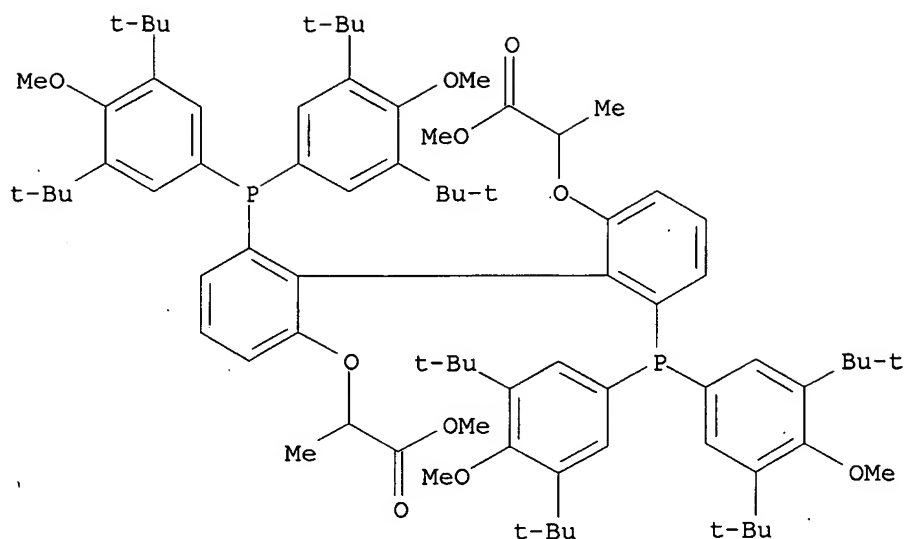
RN 848079-14-1 CAPLUS

CN Propanoic acid, 2,2'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



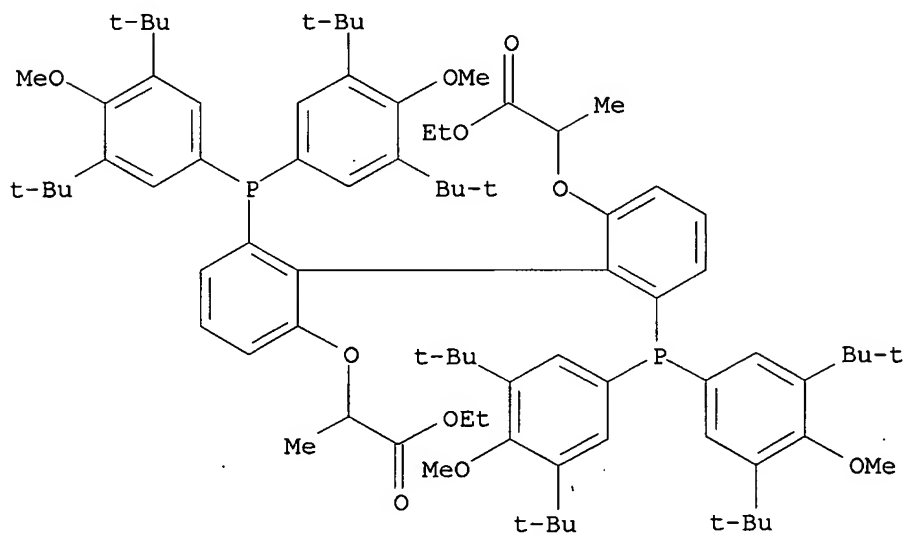
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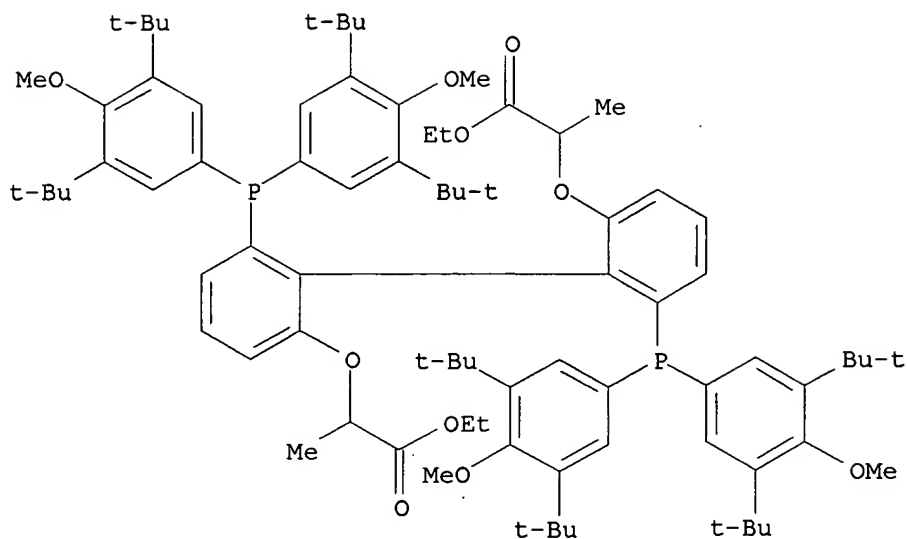
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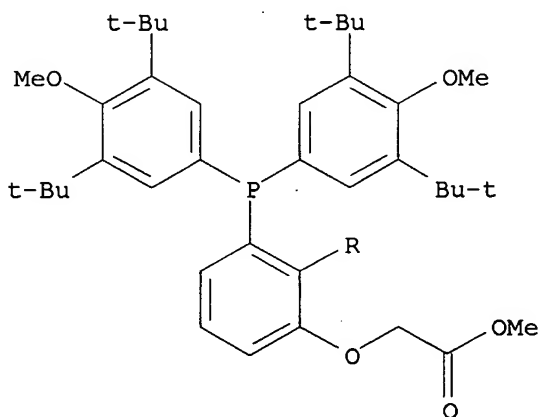
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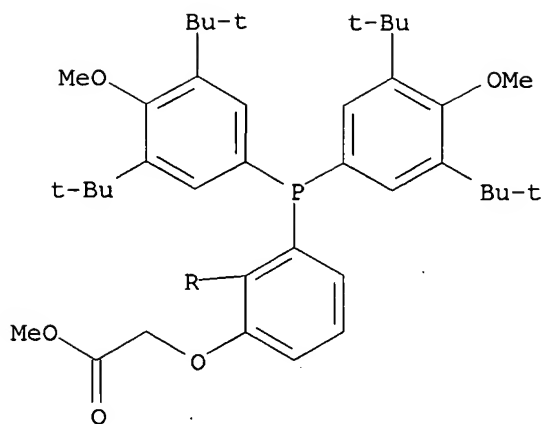
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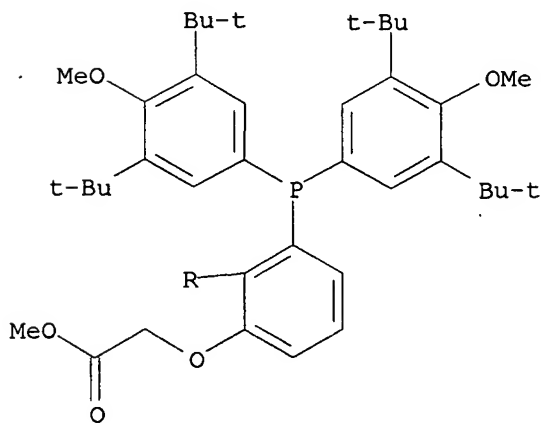
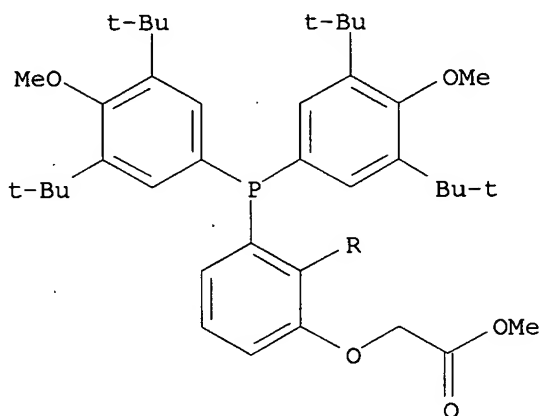
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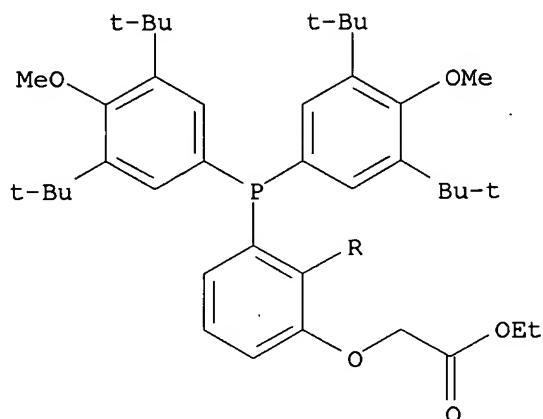


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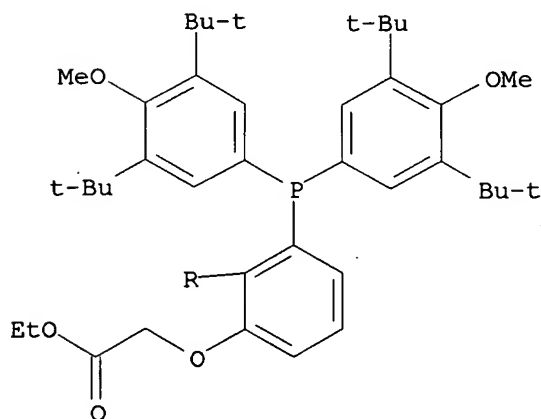


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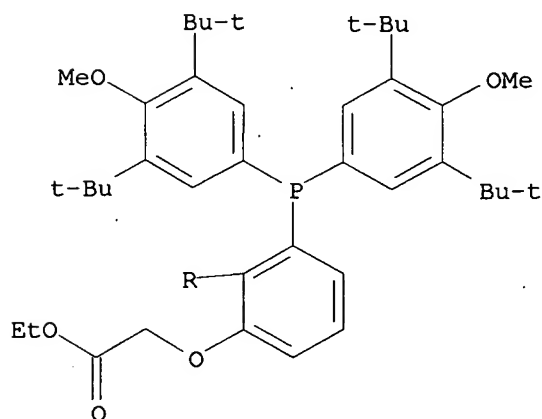
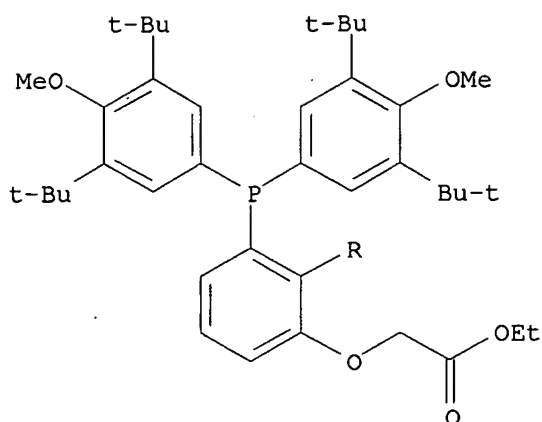
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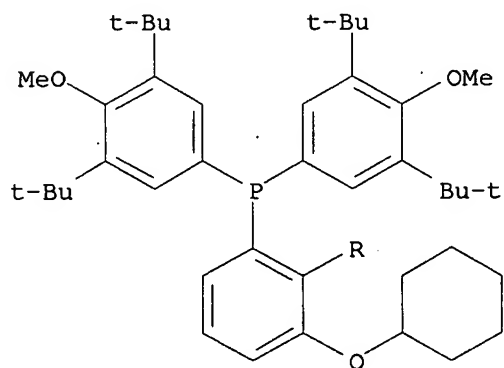
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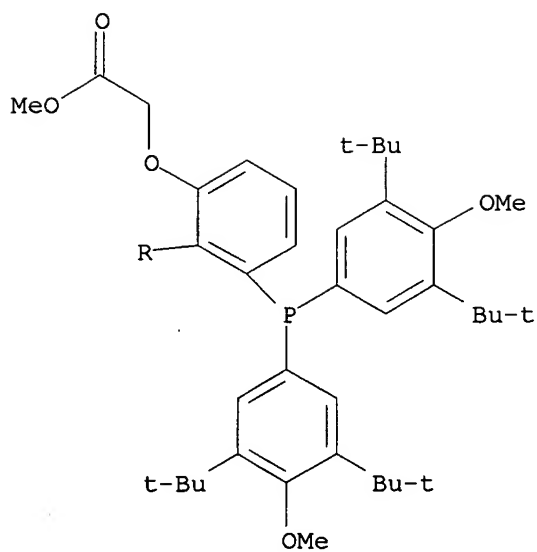


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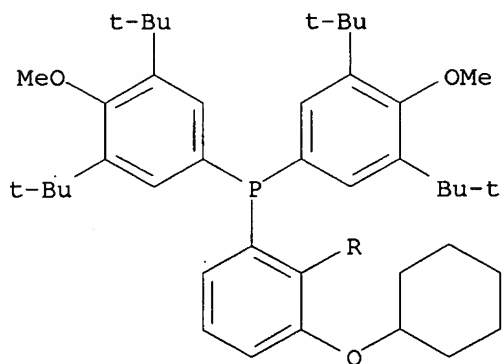


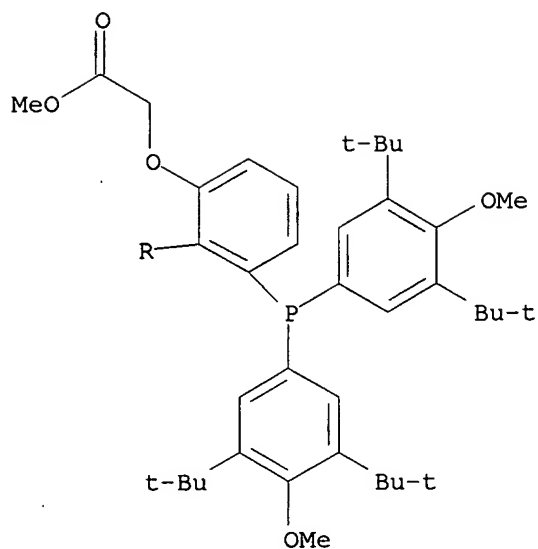
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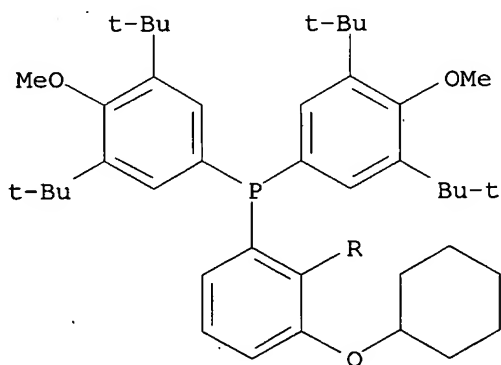


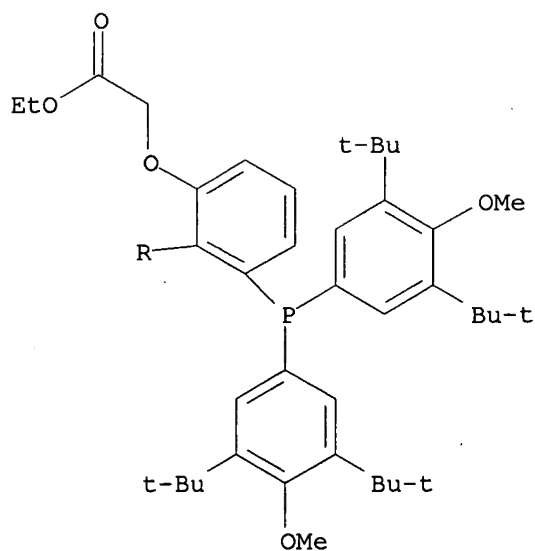
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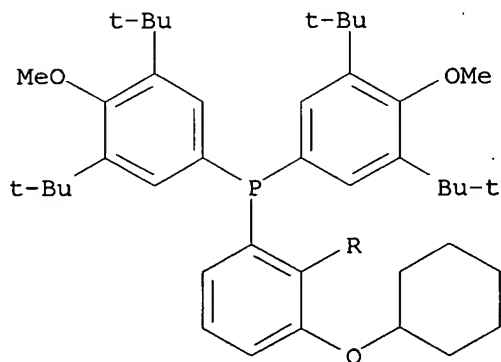


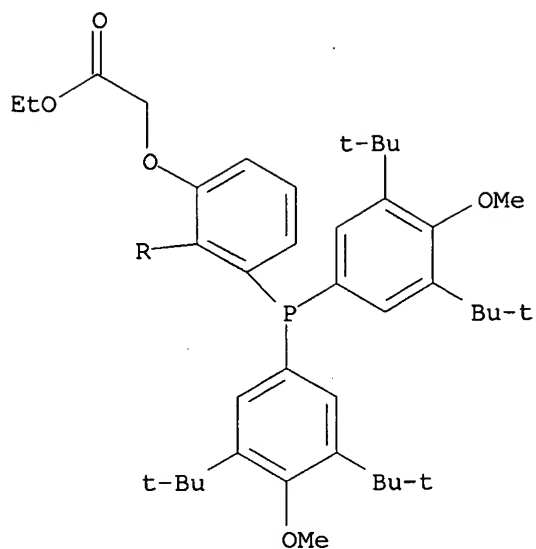
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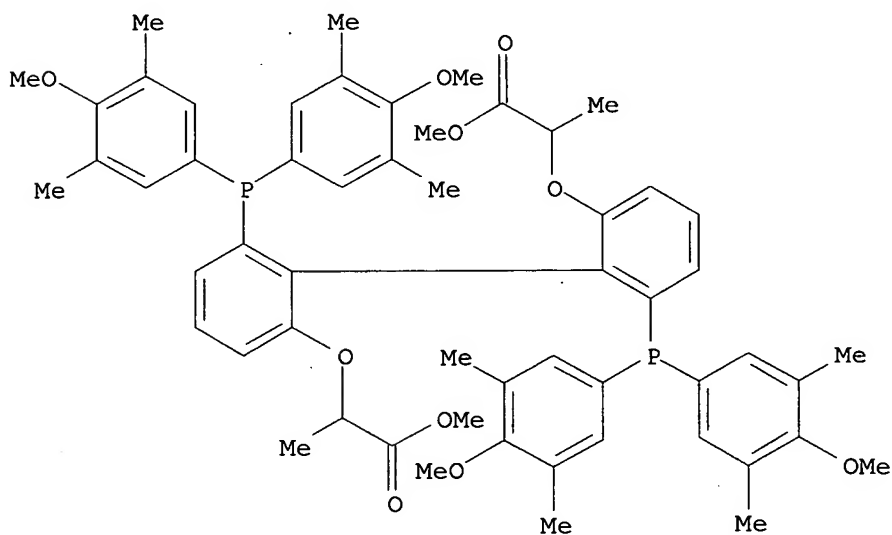
RN 848079-25-4 CAPLUS
 CN Acetic acid, [[[1S]-2',6-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)





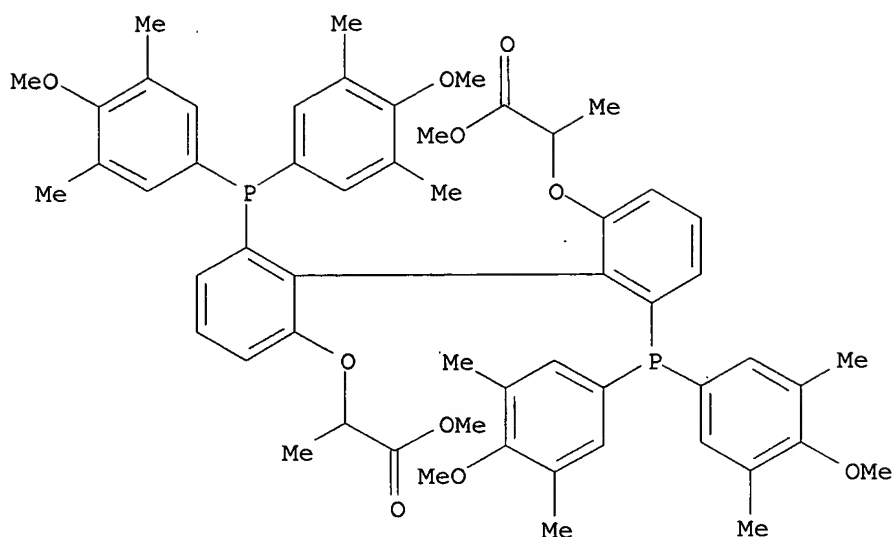
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CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)...



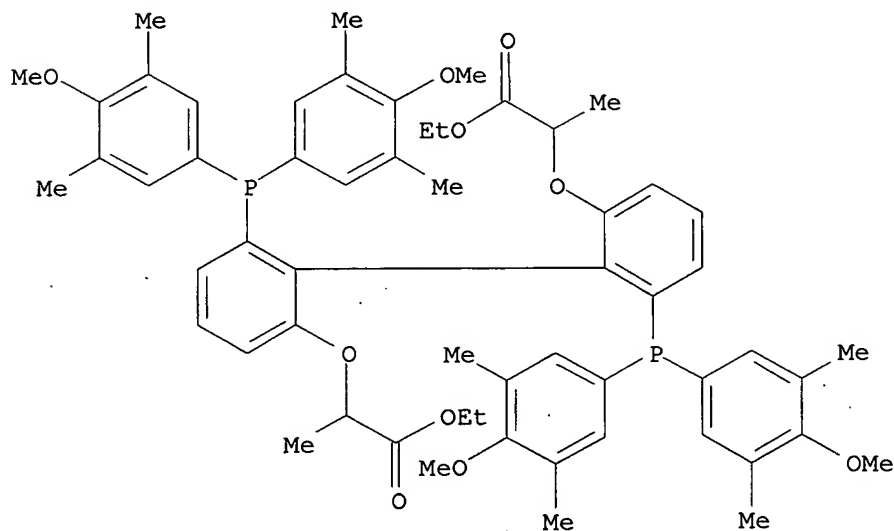
RN 848079-27-6 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



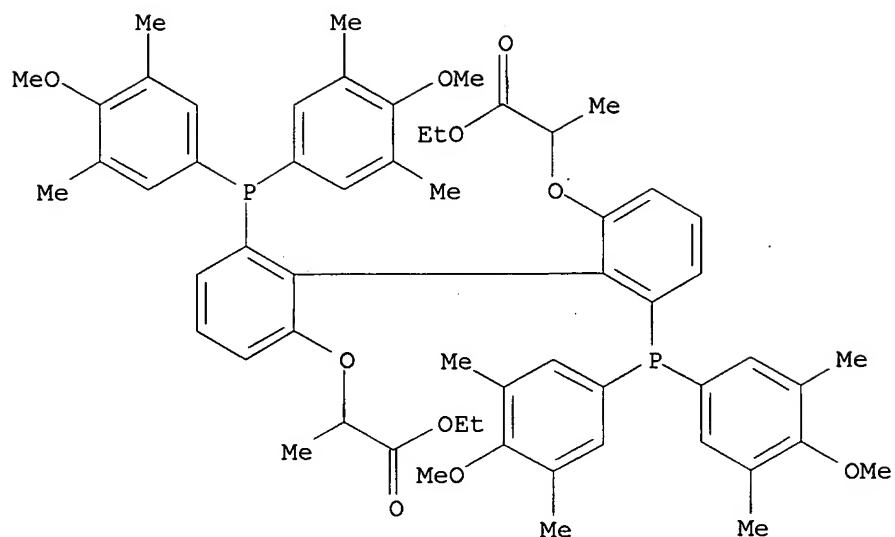
RN 848079-28-7 CAPLUS

CN Propanoic acid, 2,2'-[[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



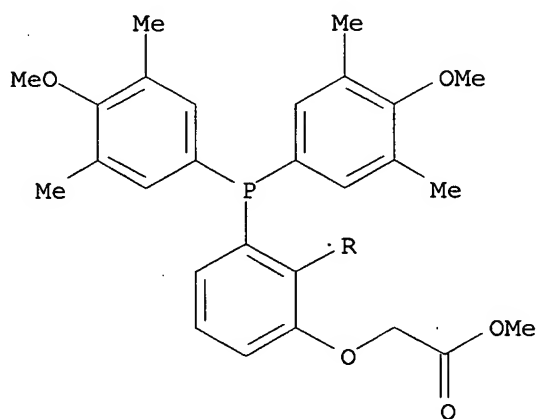
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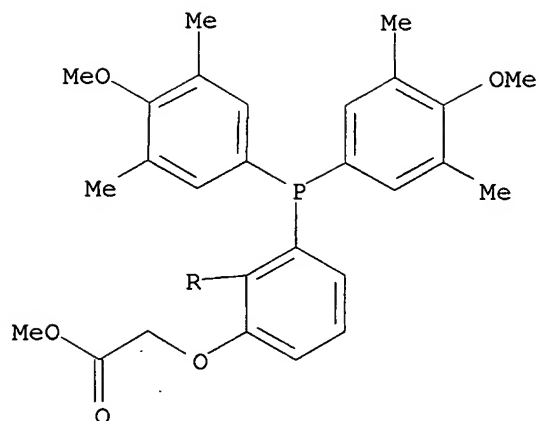
CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



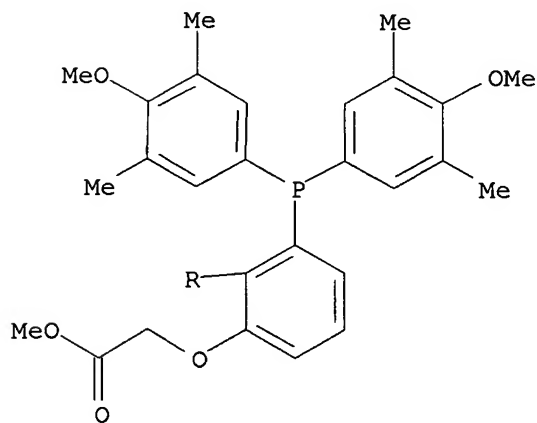
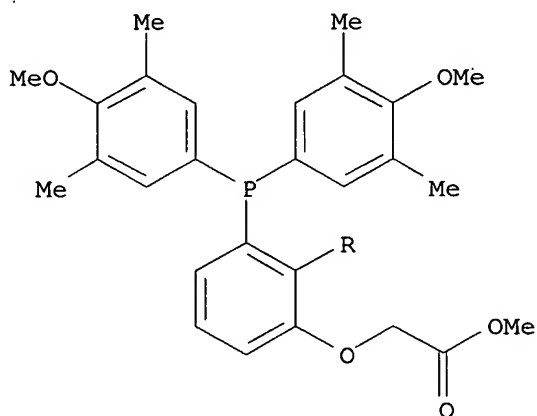
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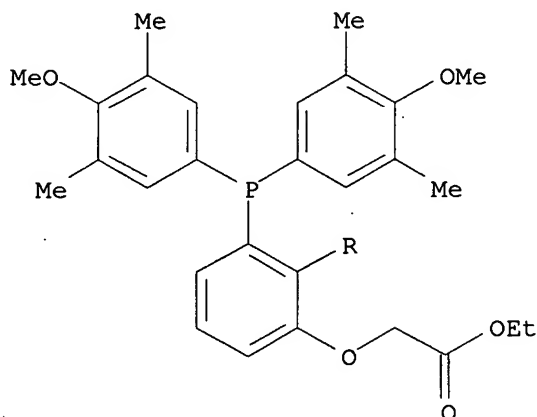


RN 848079-31-2 CAPLUS
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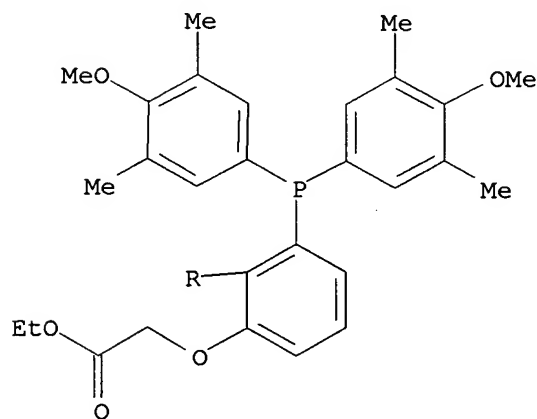


RN 848079-32-3 CAPLUS
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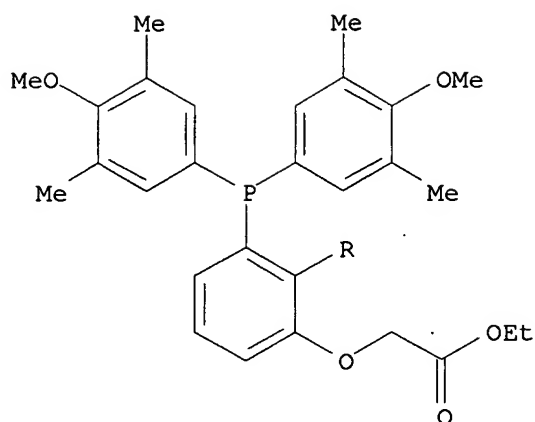


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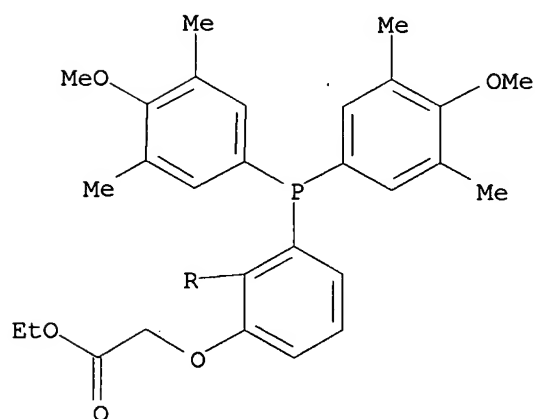


RN 848079-33-4 CAPLUS
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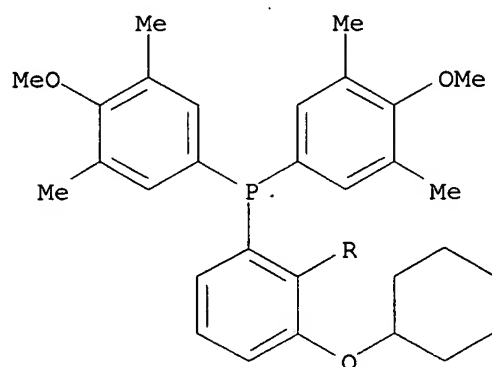


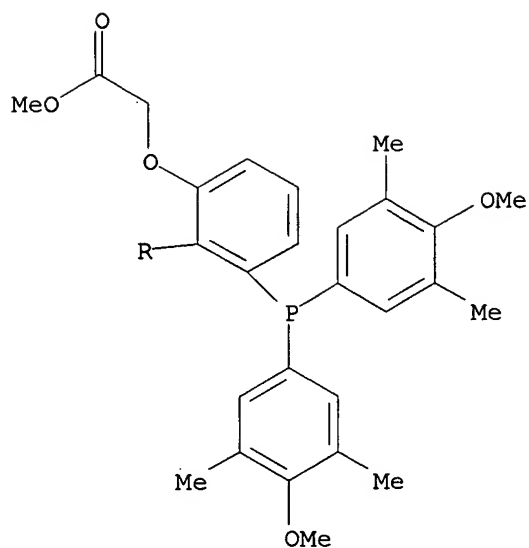
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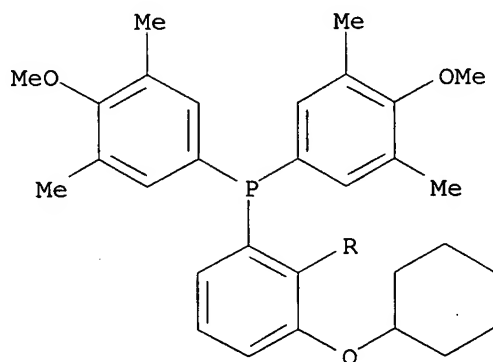
RN 848079-34-5 CAPLUS
CN Acetic acid, [[(1R)-2',6-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

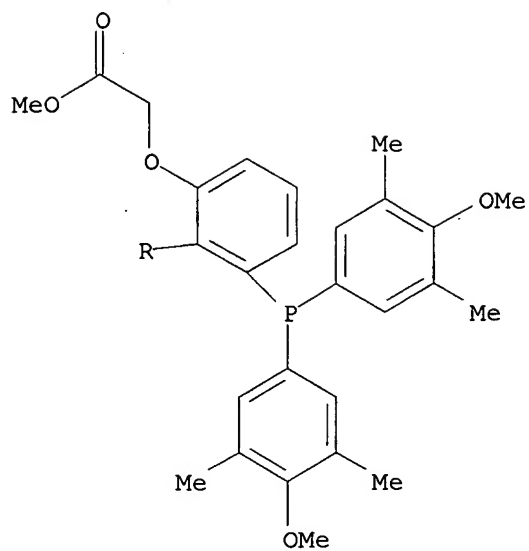
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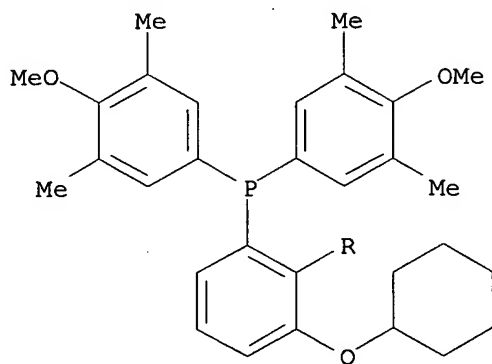


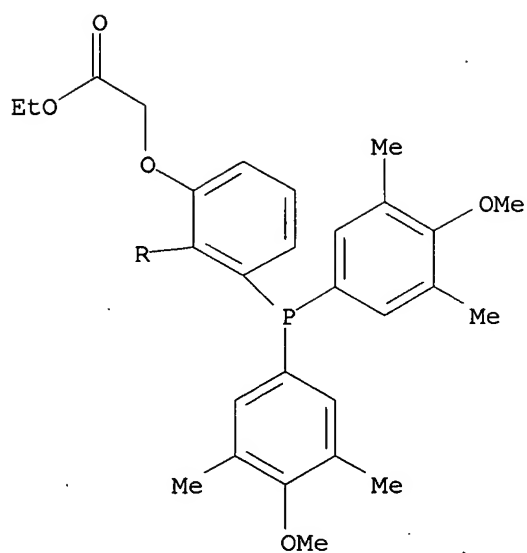
RN 848079-35-6 CAPLUS
 CN Acetic acid, [[(1S)-2',6-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



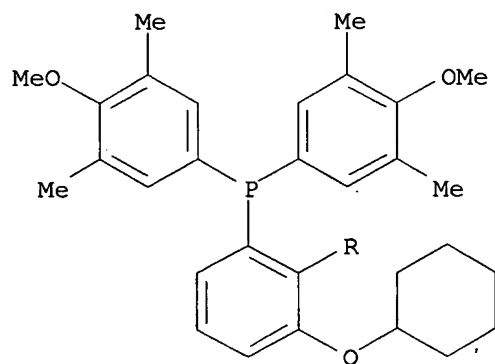


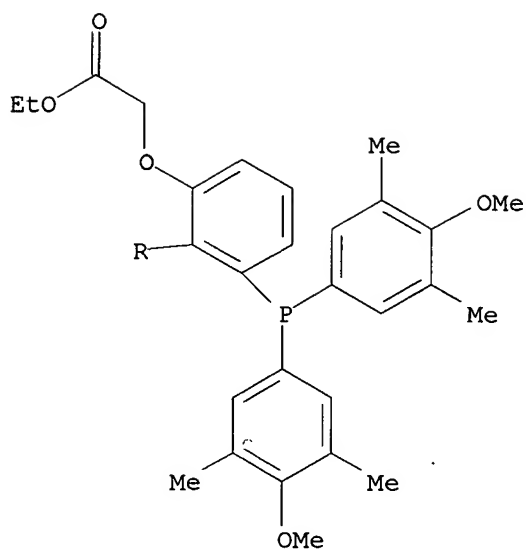
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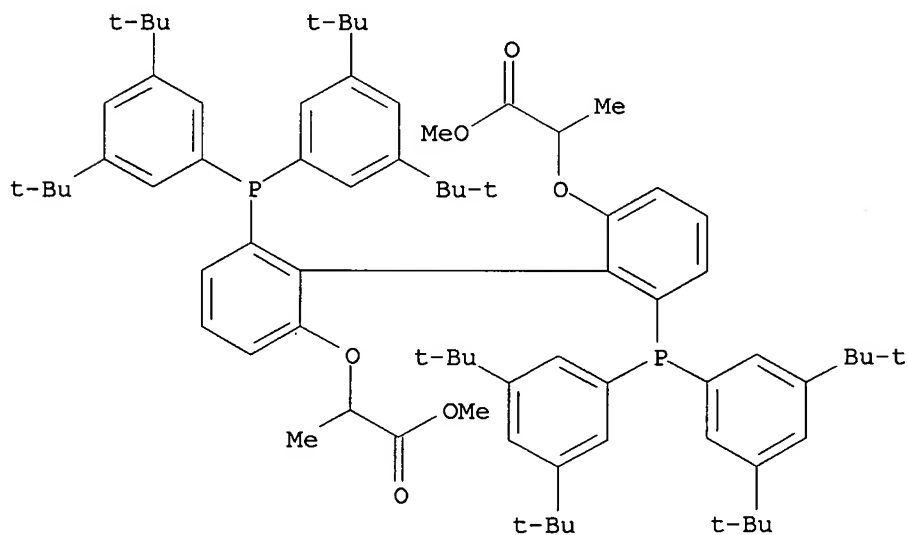
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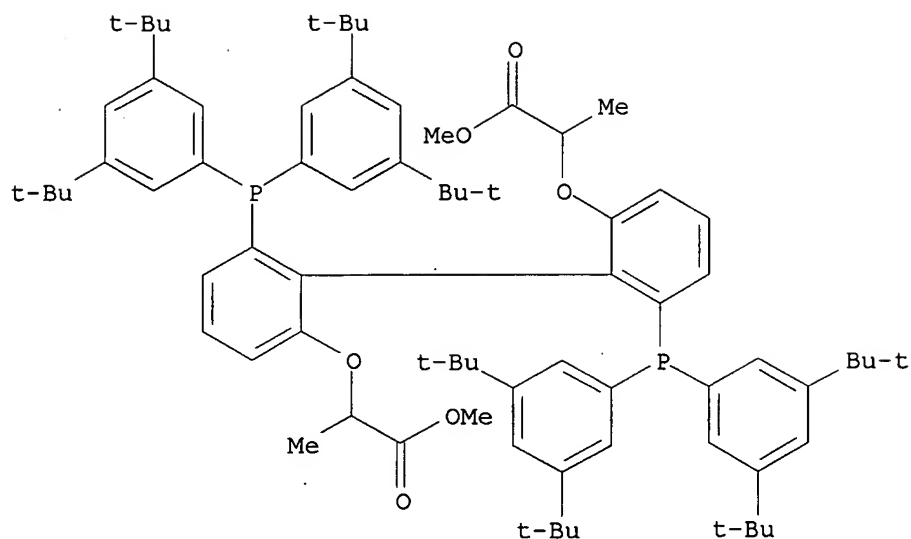
RN 848079-38-9 CAPLUS

CN Propanoic acid, 2,2'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



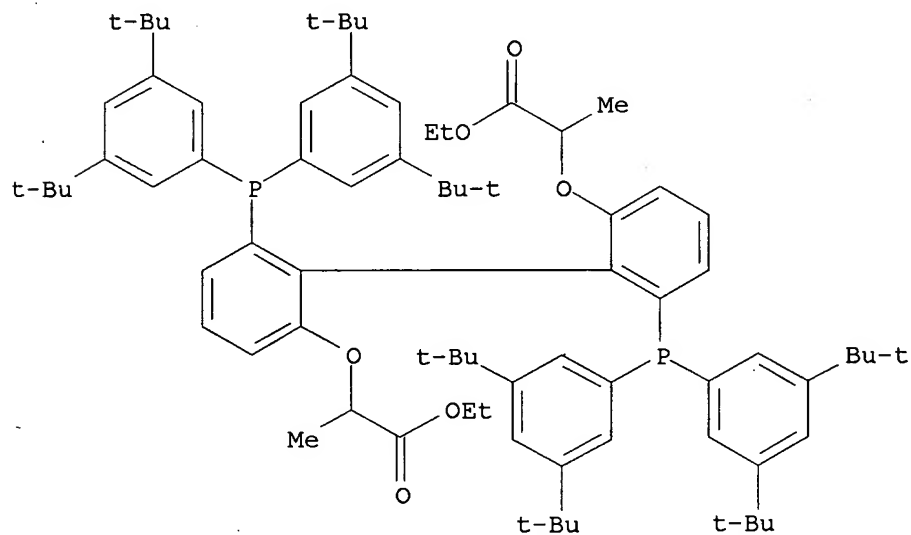
RN 848079-39-0 CAPLUS

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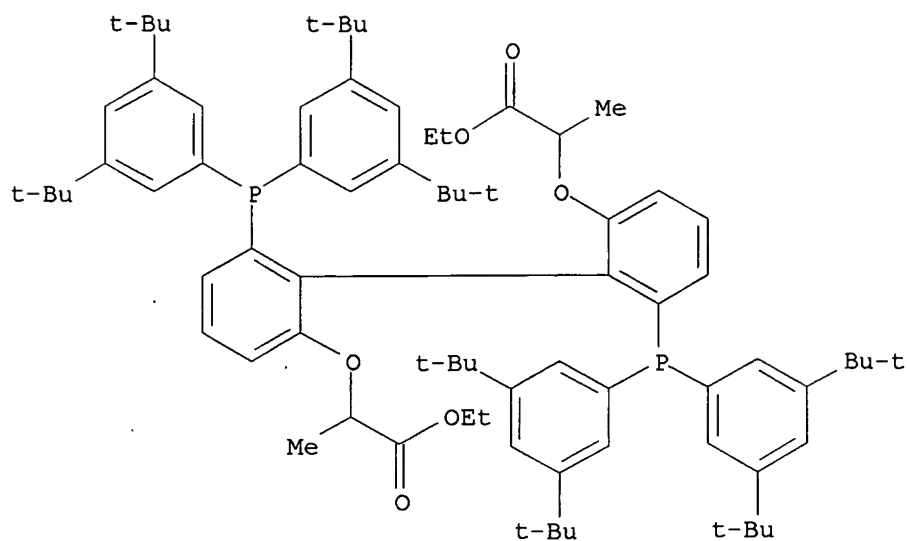
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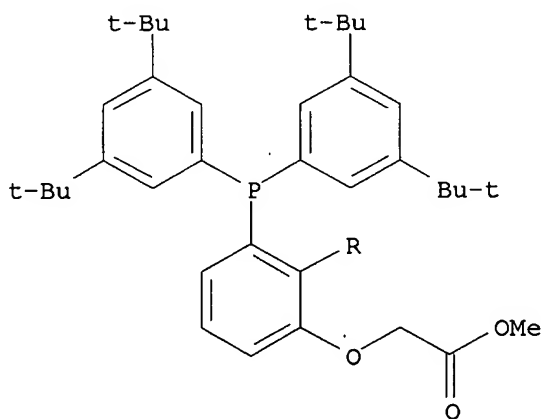
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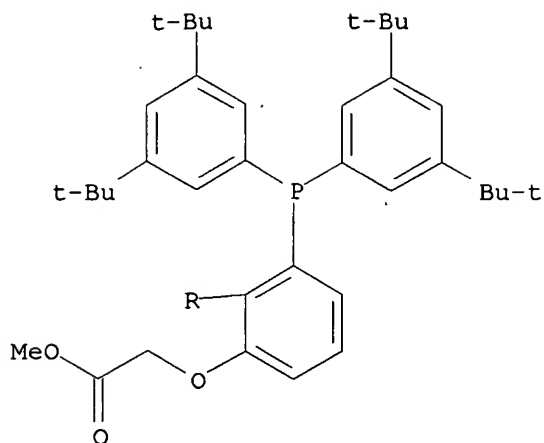
CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



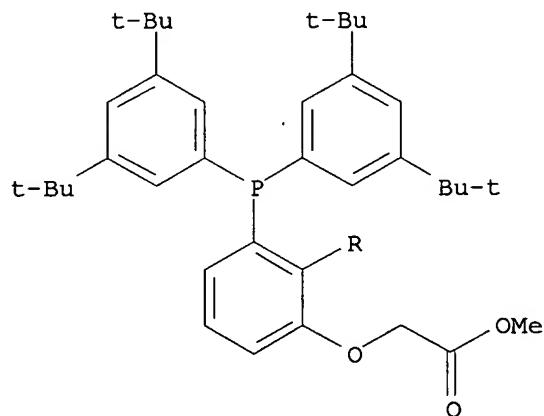
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 CN Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

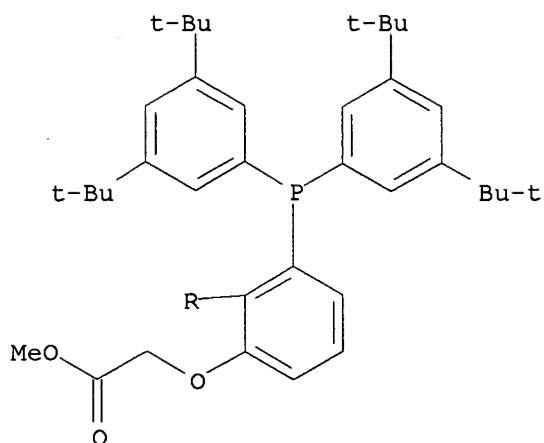
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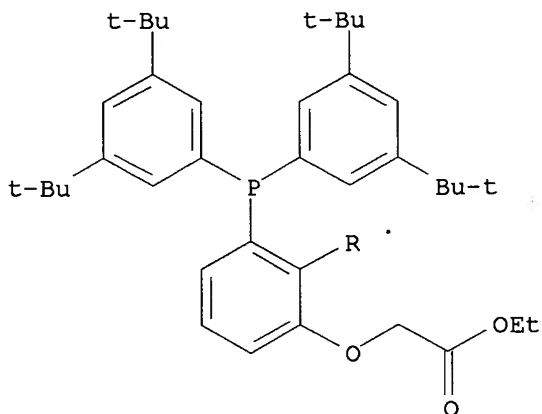


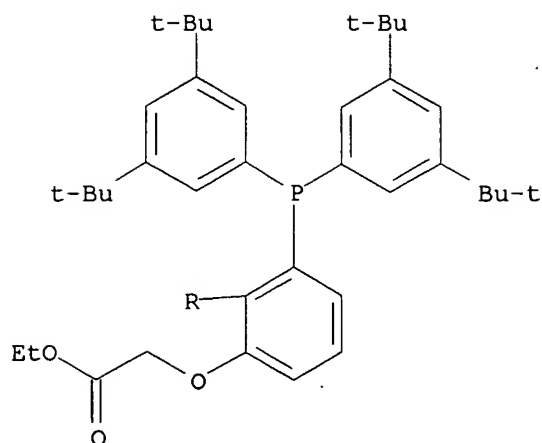
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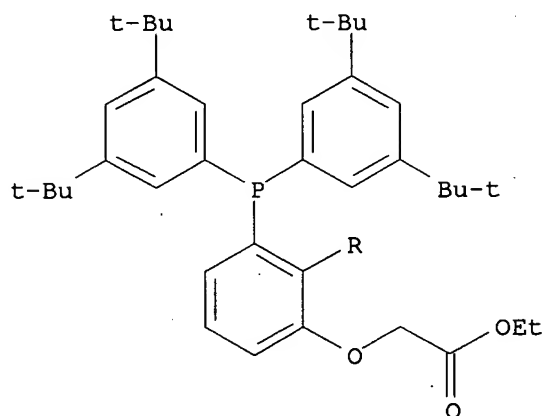


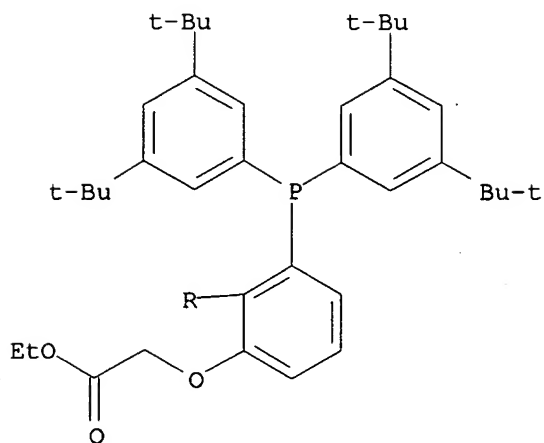
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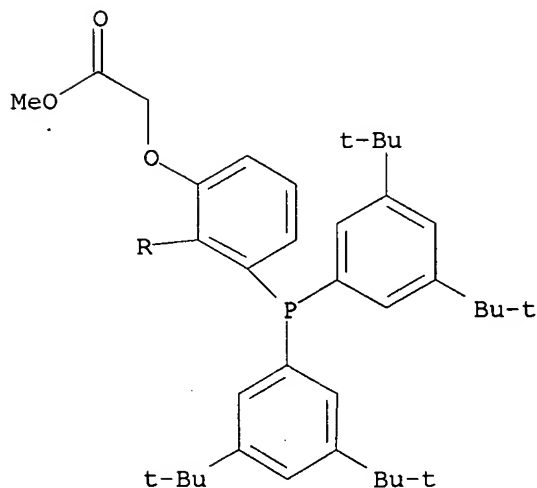
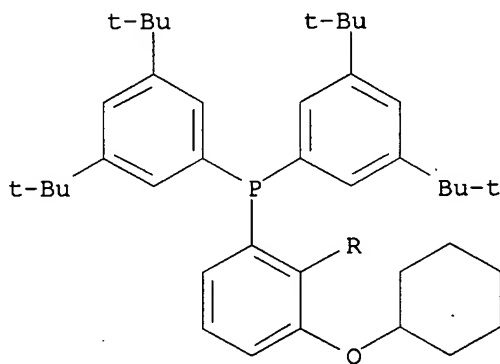


RN 848079-45-8 CAPLUS
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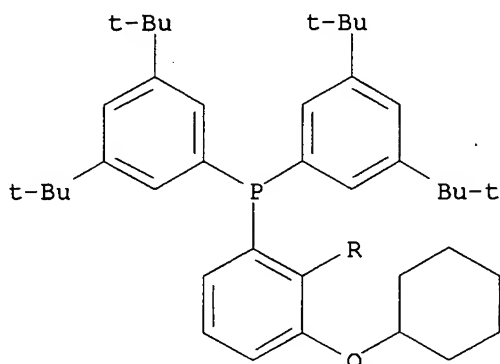


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 INDEX NAME)

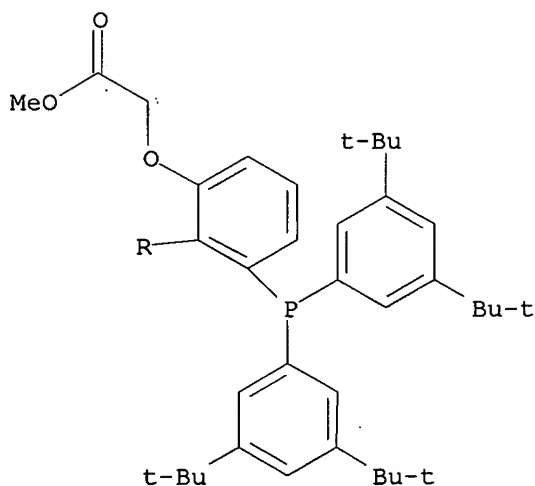


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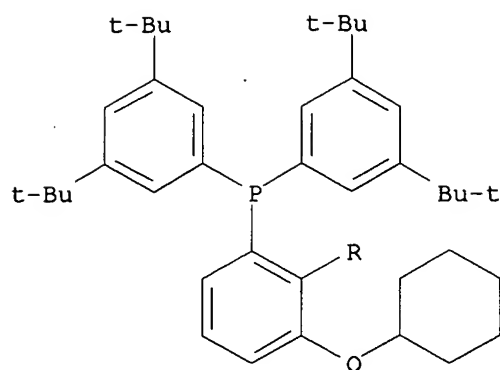


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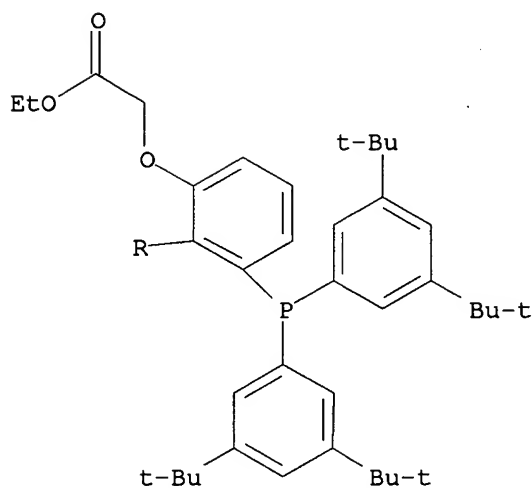


RN 848079-48-1 CAPLUS
 CN Acetic acid, [[[1R)-2',6-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

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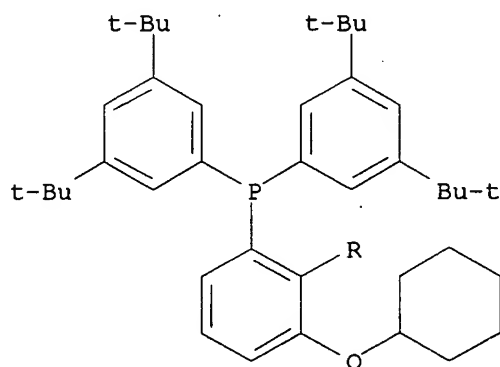


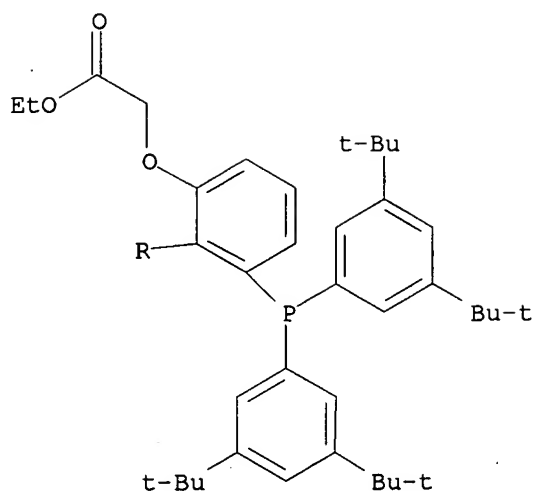
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RN 848079-49-2 CAPLUS
CN Acetic acid, [[(1S)-2',6-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

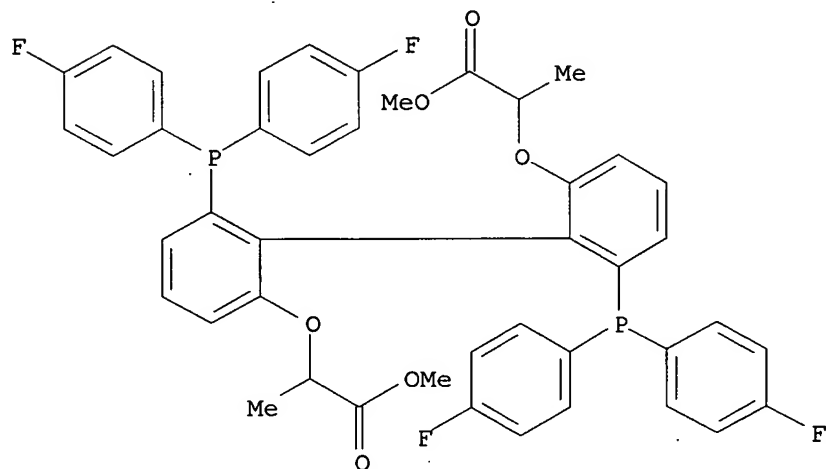
PAGE 1-A





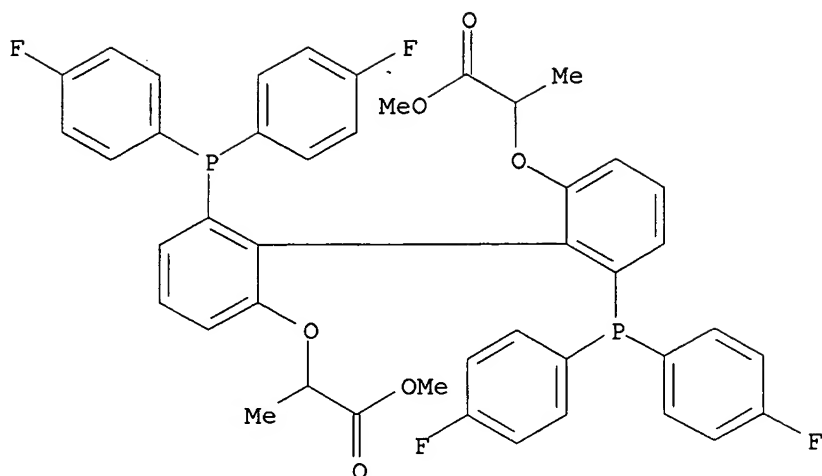
RN 848079-50-5 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

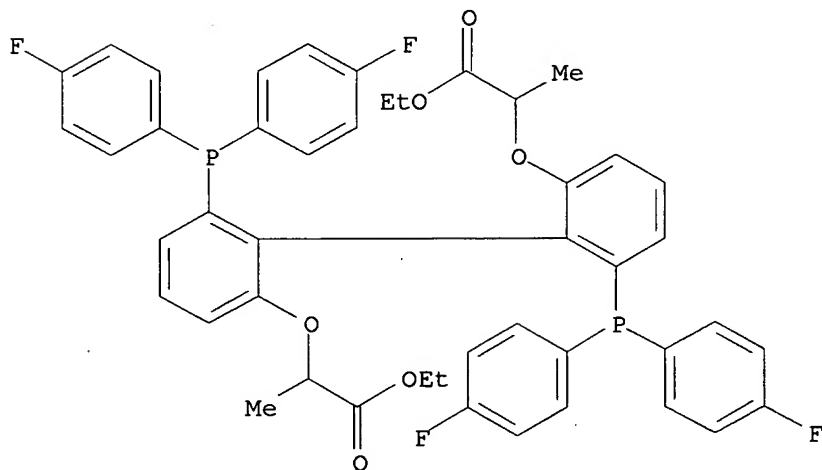


RN 848079-51-6 CAPLUS

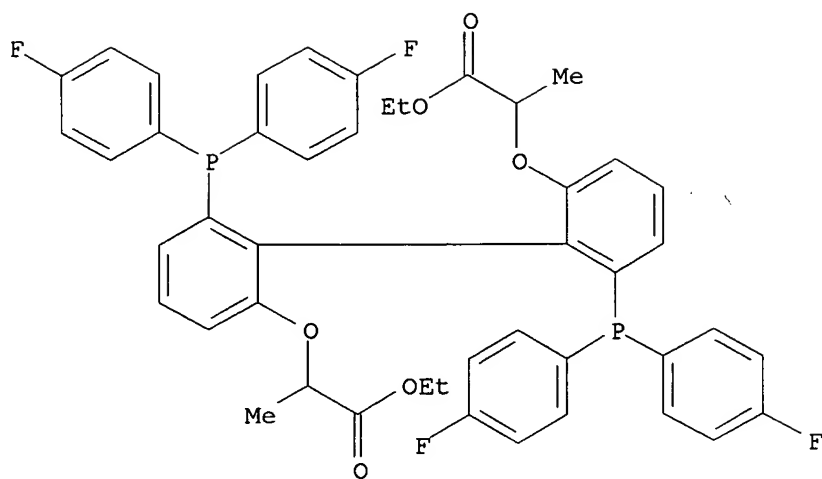
CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



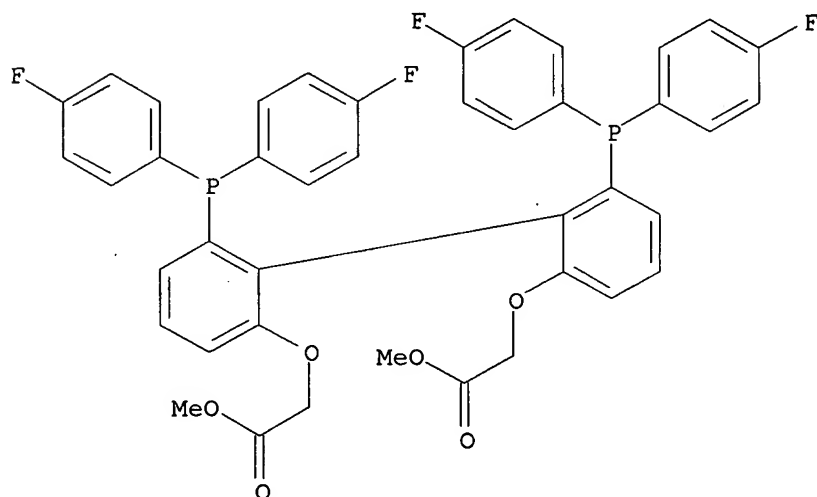
RN 848079-52-7 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



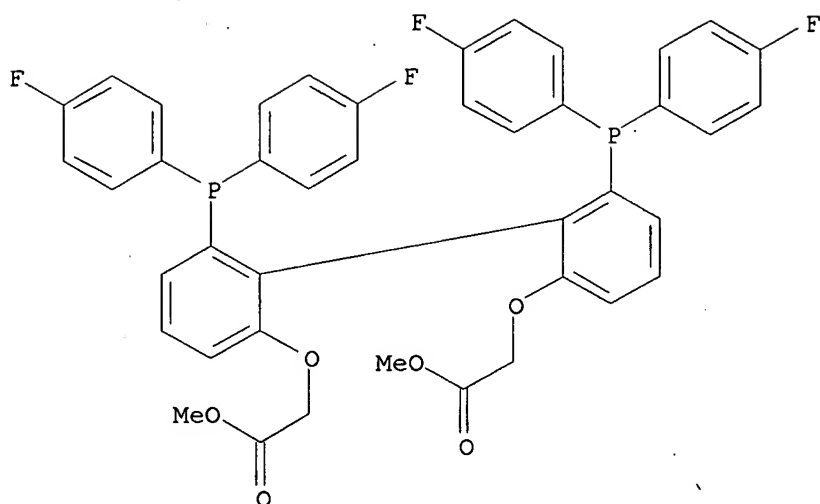
RN 848079-53-8 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



RN 848079-54-9 CAPLUS
 CN Acetic acid, 2,2'-[[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

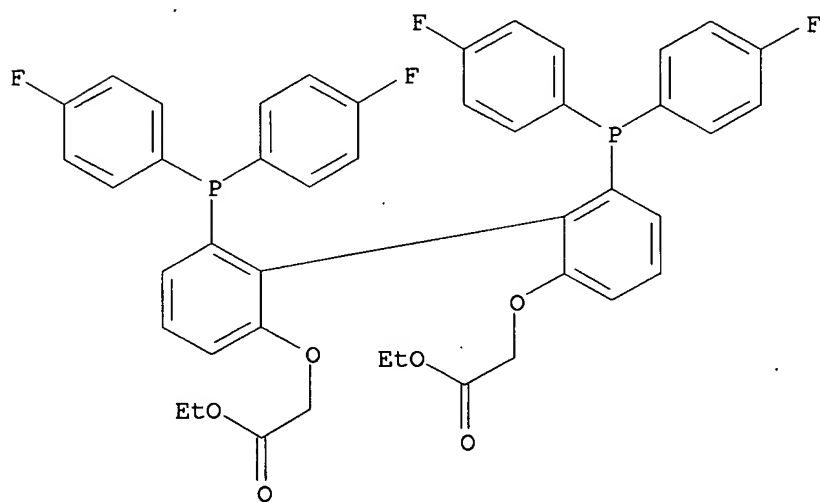


RN 848079-55-0 CAPLUS
 CN Acetic acid, 2,2'-[[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



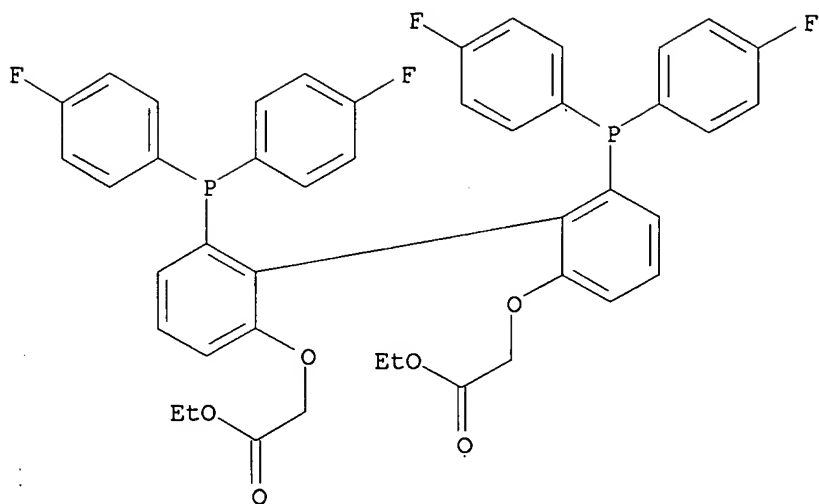
RN 848079-56-1 CAPLUS

CN Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



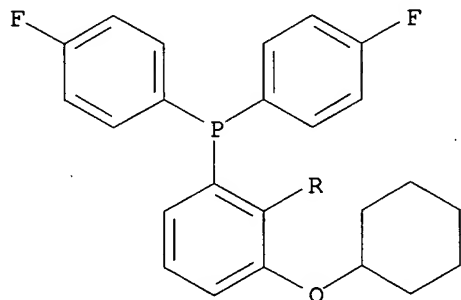
RN 848079-57-2 CAPLUS

CN Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

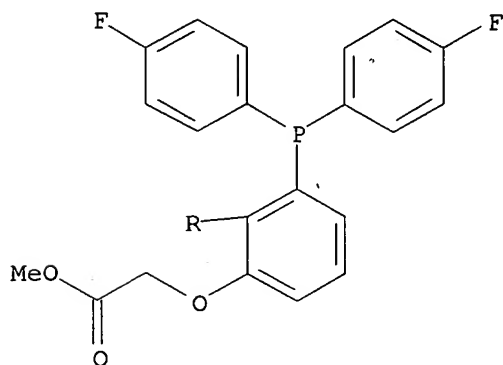


RN 848079-58-3 CAPLUS
 CN Acetic acid, [[(1R)-2',6-bis[bis(4-fluorophenyl)phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

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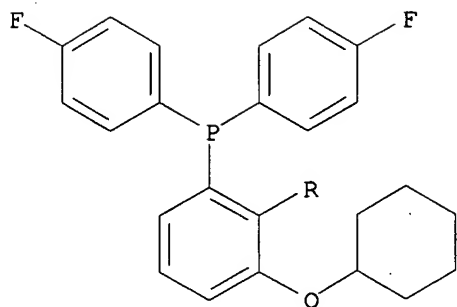
PAGE 2-A



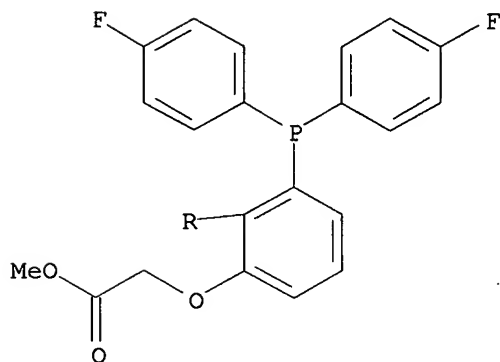
RN 848079-59-4 CAPLUS
 CN Acetic acid, [[(1S)-2',6-bis[bis(4-fluorophenyl)phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

NAME)

PAGE 1-A

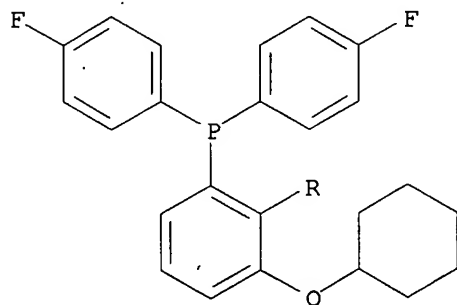


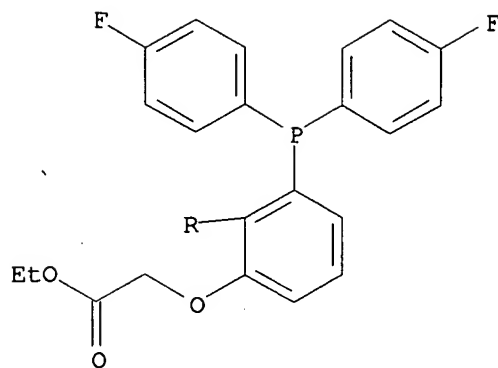
PAGE 2-A



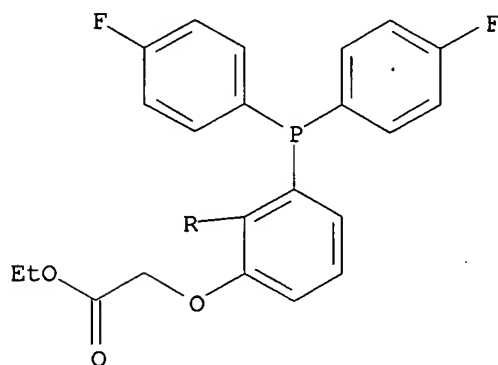
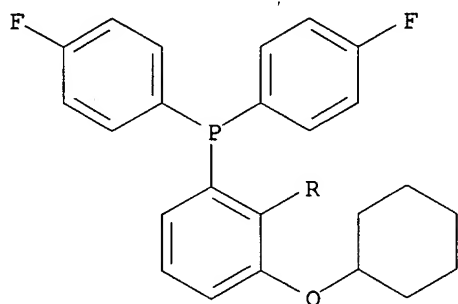
RN 848079-60-7 CAPLUS
CN Acetic acid, [[[1R)-2',6-bis[bis(4-fluorophenyl)phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



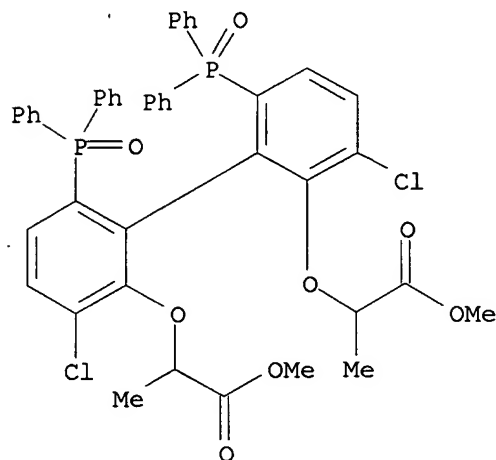


RN 848079-61-8 CAPLUS
 CN Acetic acid, [[[1S]-2',6-bis[bis(4-fluorophenyl)phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

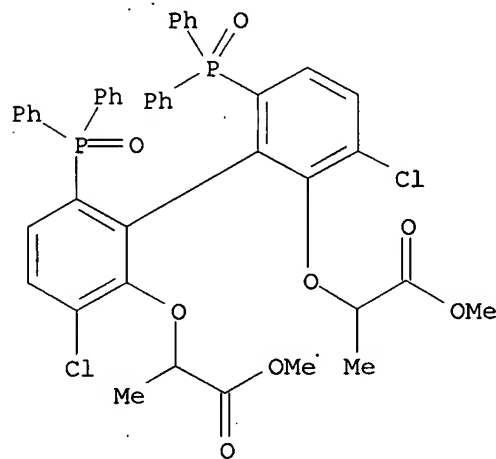


IT 848078-16-0P 848078-17-1P
 RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (reduction; preparation of axial-chiral biphenyl-2,2'-diphosphines containing alkoxy-carbonylalkoxy groups as ligands for asym. hydrogenation of ketones)

RN 848078-16-0 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

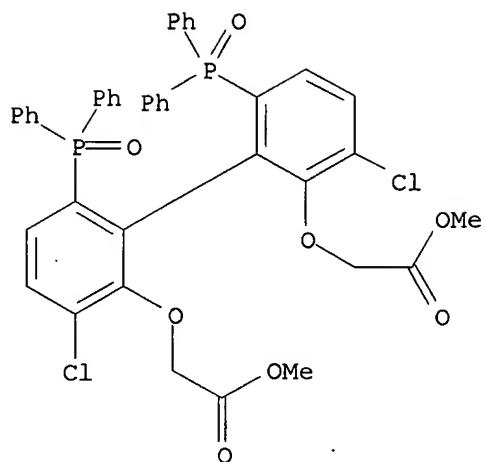


RN 848078-17-1 CAPLUS
 CN Propanoic acid, 2,2'-[[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester, (2R,2'S)- (9CI) (CA INDEX NAME)



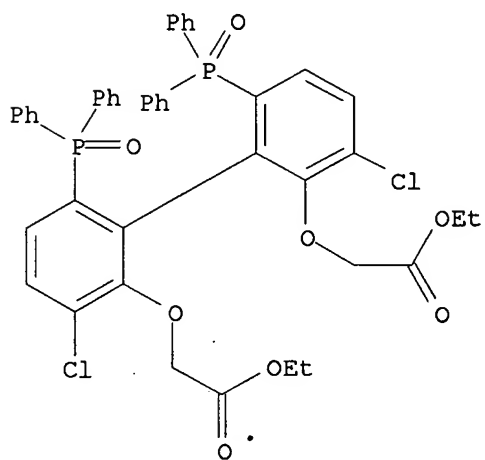
IT 848078-12-6P 848078-13-7P 848078-15-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (reduction; preparation of axial-chiral biphenyl-2,2'-diphosphines containing alkoxy carbonylalkoxy groups as ligands for asym. hydrogenation of ketones)

RN 848078-12-6 CAPLUS
 CN Acetic acid, 2,2'-[[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)



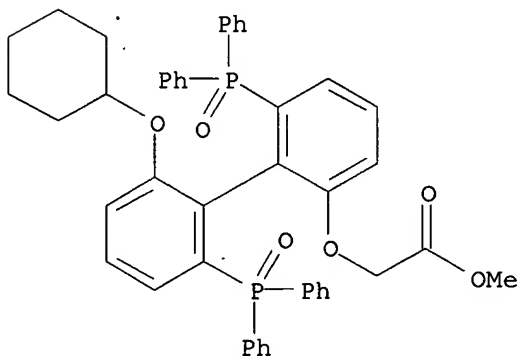
RN 848078-13-7 CAPLUS

CN Acetic acid, 2,2'-[[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)



RN 848078-15-9 CAPLUS

CN Acetic acid, [[[(1S)-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT:

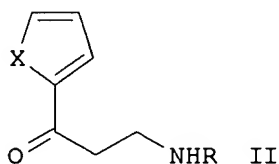
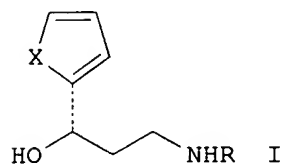
5

THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 65 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:181066 CAPLUS
 DOCUMENT NUMBER: 142:280046
 TITLE: Process for the asymmetric hydrogenation of
 β -amino ketones using transition metal complexes
 of chiral bidentate phosphines as catalysts.
 PATENT ASSIGNEE(S): Lonza AG, Switz.
 SOURCE: Eur. Pat. Appl., 15 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1510517	A1	20050302	EP 2003-77734	20030901
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
AU 2004268057	A1	20050310	AU 2004-268057	20040831
WO 2005021527	A2	20050310	WO 2004-EP9690	20040831
WO 2005021527	A3	20050714		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1664014	A2	20060607	EP 2004-764655	20040831
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1842523	A	20061004	CN 2004-80024598	20040831
JP 2007504192	T	20070301	JP 2006-525092	20040831
NO 2006000763	A	20060317	NO 2006-763	20060217
US 2006252945	A1	20061109	US 2006-569824	20060228
PRIORITY APPLN. INFO.:			EP 2003-77734	A 20030901
			WO 2004-EP9690	W 20040831
OTHER SOURCE(S):			CASREACT 142:280046; MARPAT 142:280046	
GI				



AB A process for the preparation of enantiomerically enriched or enantiomerically pure β -amino alcs. [I; X = S, O; R = (substituted) alkyl, cycloalkyl, aryl, aralkyl] comprises asym. hydrogenation of ketones (II; variables as above) using transition metal complexes of chiral bidentate phosphines as catalysts. Thus, 3-methylamino-1-(thien-2-yl)propan-1-one hydrochloride

(preparation given), NaOMe, (S,S)-Me-DuPhos, and [Rh(COD)₂]BF₄ were autoclaved together in MeOH at 30-34° and 30 bar H₂ for 5 h to give 67% (S)-3-methylamino-1-(2-thienyl)-1-propanol in >99% enantiomeric excess.

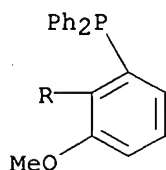
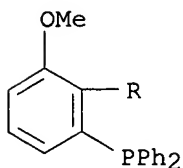
IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(asym. hydrogenation of aminoketones using transition metal complexes of chiral bidentate phosphines as catalysts)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 66 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:159895 CAPLUS

DOCUMENT NUMBER: 142:240572

TITLE: Preparation of allyloxybiphenyl phosphorus ligands for enantioselective catalysis

INVENTOR(S): Arlt, Dieter

PATENT ASSIGNEE(S): Germany

SOURCE: Ger. Offen., 5 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

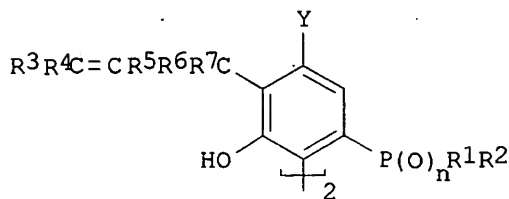
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10335950	A1	20050224	DE 2003-10335950	20030804
PRIORITY APPLN. INFO.:			DE 2003-10335950	20030804
OTHER SOURCE(S):			CASREACT 142:240572; MARPAT 142:240572	

GI



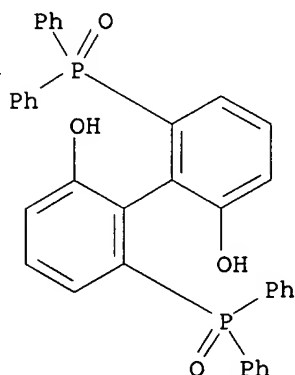
I

AB Preparation of 6,6'-bis-allyloxybiphenyl derivs., I (R1, R2 = alkoxy, aryloxy, alkyl, cycloalkyl, aryl, hetaryl, etc.; R3-R7 = H, alkyl, aryl, etc.; Y = H, alkyl, alkoxy, etc.; n = 0-1), contained phosphorus in 2 and 2'-position, useful as ligands for transition metal complexes, which are useful as catalysts for enantioselective hydrogenations and isomerizations, is described. These rearrangement products, if they are present in chiral form, can be converted by a new isomerization procedure into mixts. of the atropisomers. Thus, reaction of (R)-(6,6'-dihydroxybiphenyl-2,2'-diyl) bis(diphenylphosphine oxide) with K2CO3 in DMF gave 90.7% (R)-(6,6'-bisallyloxybiphenyl-2,2'-diyl) bis(diphenylphosphine oxide).

IT 524711-75-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of allyloxybiphenyl phosphorus ligands for transition metal catalyzed enantioselective catalysis)

RN 524711-75-9 CAPLUS

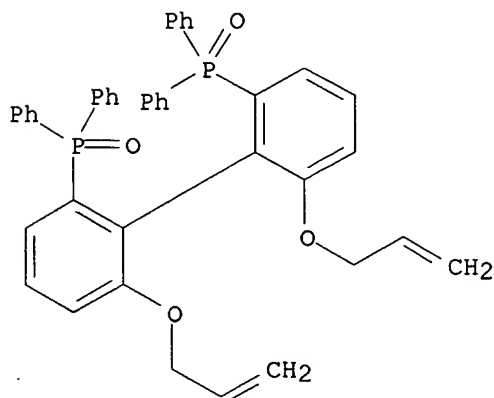
CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA INDEX NAME)



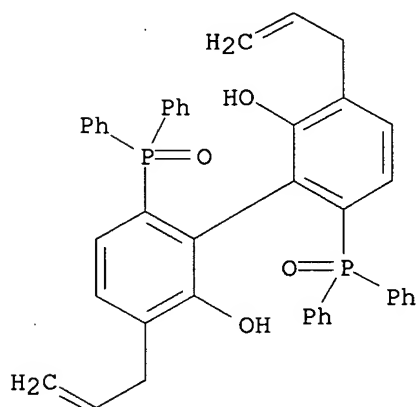
IT 844679-25-0P 844679-26-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of allyloxybiphenyl phosphorus ligands for transition metal catalyzed enantioselective catalysis)

RN 844679-25-0 CAPLUS

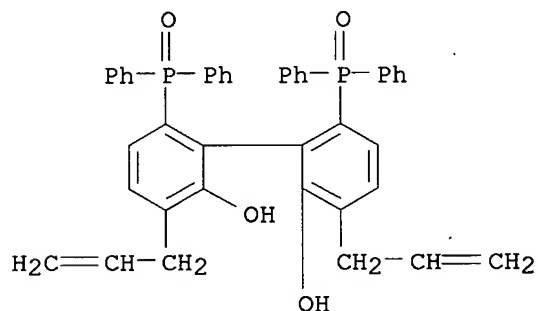
CN Phosphine oxide, [(1R)-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



RN 844679-26-1 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-3,3'-di-2-propenyl-, (1R)- (9CI) (CA INDEX NAME)

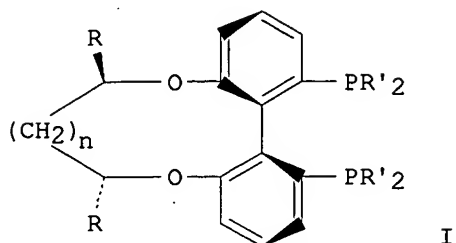


IT 844450-47-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of allyloxybiphenyl phosphorus ligands for transition metal catalyzed enantioselective catalysis)
 RN 844450-47-1 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-3,3'-di-2-propenyl-, (9CI) (CA INDEX NAME)



L3 ANSWER 67 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:58129 CAPLUS
 DOCUMENT NUMBER: 142:137081
 TITLE: Preparation of biphenyldiphosphine compounds useful in asymmetric reactions
 INVENTOR(S): Chan, Albert Sun-chi; Qiu, Liqin
 PATENT ASSIGNEE(S): The Hong Kong Polytechnic University, Hong Kong
 SOURCE: U.S. Pat. Appl. Publ., 18 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005014633	A1	20050120	US 2004-888820	20040709
US 7094725	B2	20060822		



AB The present invention provides compds. of the formula I wherein R = optionally substituted lower alkyl, cycloalkyl or aryl; R' = alkyl or aryl; n = 0, 1, or 2; or an enantiomer thereof; or an enantiomeric mixture thereof. The compds. of formula I are bridged C2-sym. biphenyldiphosphine analogs and, thus, may be employed as ligands to generate chiral transition metal catalysts which may be applied in a variety of asym. reactions. The compds. of the present invention are easily accessible in high diastereomeric and optical purity according to the methods disclosed herein.

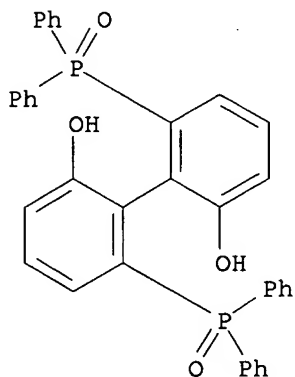
IT 524711-75-9P 679422-50-5P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation of biphenyldiphosphine compds. useful in asym. reactions)

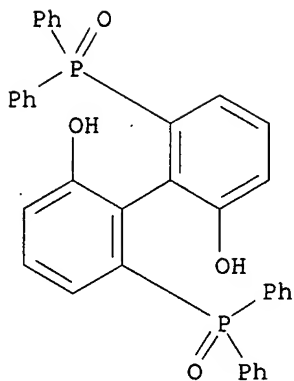
RN 524711-75-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA INDEX NAME)

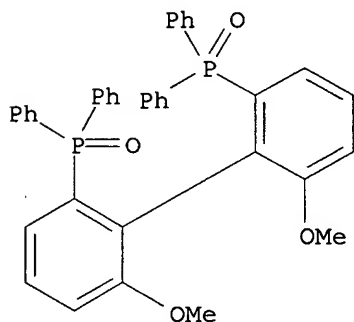


RN 679422-50-5 CAPLUS

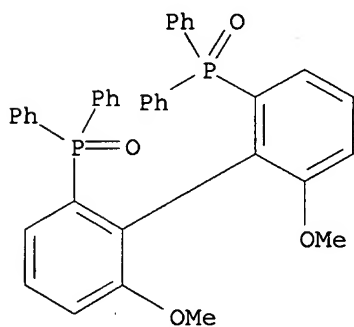
CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA INDEX NAME)



IT 133577-82-9 133577-84-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of biphenyldiphosphine compds. useful in asym. reactions)
 RN 133577-82-9 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-,
 (1R)- (9CI) (CA INDEX NAME)



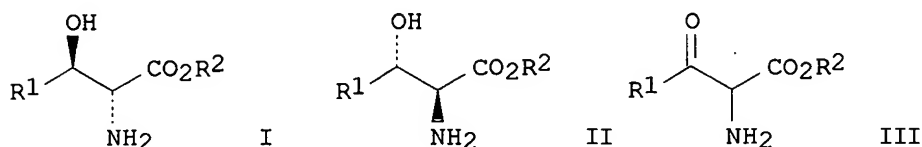
RN 133577-84-1 CAPLUS
 CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
 diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



L3 ANSWER 68 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:55190 CAPLUS
 DOCUMENT NUMBER: 142:134919
 TITLE: Process for production of optically active
 β -hydroxy- α -aminocarboxylic acid
 derivatives by asymmetric hydrogenation of
 α -aminoacylacetate ester

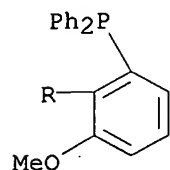
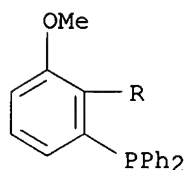
INVENTOR(S): Hamada, Yasumasa; Makino, Kazuishi
 PATENT ASSIGNEE(S): Nissan Chemical Industries, Ltd., Japan
 SOURCE: PCT Int. Appl., 63 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005005371	A1	20050120	WO 2004-JP9829	20040709
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2531898	A1	20050120	CA 2004-2531898	20040709
EP 1650185	A1	20060426	EP 2004-747297	20040709
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
CN 1823034	A	20060823	CN 2004-80019827	20040709
US 2006167300	A1	20060727	US 2006-563763	20060109
PRIORITY APPLN. INFO.:			JP 2003-272637	A 20030710
			JP 2003-426226	A 20031224
			WO 2004-JP9829	W 20040709
OTHER SOURCE(S):			MARPAT 142:134919	
GI				



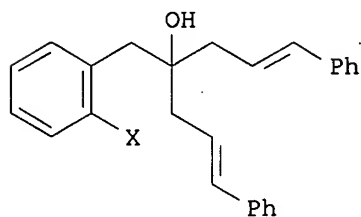
AB There is provided a process for efficient production of optically active β -hydroxy- α -aminocarboxylic acid derivs. of anti conformation represented by the general formula (I) or (II) [wherein R1, R2 = (un)substituted C1-20 alkyl or C4-12 aromatic group], characterized by hydrogenating an α -aminoacylacetate ester represented by the general formula (III) [wherein R1 and R2 are each as defined above] through catalytic asym. hydrogenation in the presence of an acid and ruthenium-(S)- or (R)-BINAP or iridium-(S)-MeO-Biphep complex. The compds. I and II are useful as intermediates of drugs or agricultural chems. Thus, 169.2 mg Me 2-amino-4-methyl-3-oxopentanoate hydrochloride was dissolved in 2.0 mL MeOH and the resulting solution was added to [RuCl2(S)-BINAP](DMF)_n which was prepared from [RuCl2(C6H6)]₂ and 25.3 mg (S)-BINAP. The resulting mixture was heated under H at H pressure of 100 atm and 50° for 48 h, followed by benzoylation of the product with benzoyl chloride in the presence of Et3N in THF to give 71% Me (2S,3S)-(+)-2-benzoylamino-3-hydroxy-4-methylpentanoate (56% ee).

IT 133545-17-2, (S)-MeO-Biphep
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of optically active β -hydroxy- α -aminocarboxylic acid
 derivs. by catalytic asym. hydrogenation of α -aminoacylacetate
 ester derivs. in presence of ruthenium-BINAP or iridium-BIPHEP complex)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)

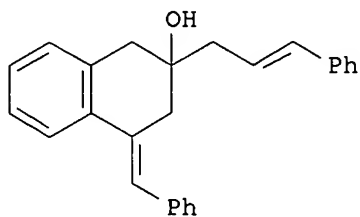


REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 69 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:10321 CAPLUS
 DOCUMENT NUMBER: 142:240180
 TITLE: Catalytic desymmetrizing intramolecular Heck reaction:
 Evidence for an unusual hydroxy-directed migratory
 insertion
 AUTHOR(S): Oestreich, Martin; Sempere-Culler, Fernando; Machotta,
 Axel B.
 CORPORATE SOURCE: Institut fuer Organische Chemie und Biochemie,
 Albert-Ludwigs-Universitaet, Freiburg im Breisgau,
 79104, Germany
 SOURCE: Angewandte Chemie, International Edition (2005),
 44(1), 149-152
 CODEN: ACIEF5; ISSN: 1433-7851
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 142:240180
 GI



I



II

AB Mild cationic reaction conditions are used for the efficient

desymmetrization of prochiral bishomoallylic alcs. I (X = Br, F3CSO2O) in an intramol. Heck reaction resulting in formation of tetrahydronaphthalenol II. This is the first example of a group-selective Heck cyclization in which the enantiotopic alkene moieties are not incorporated into a cyclic and, therefore, rigid system. The high enantioselectivity is attributed to the hydroxy group functioning as a catalyst-directing group, which could be a novel feature in asym. Heck chemical

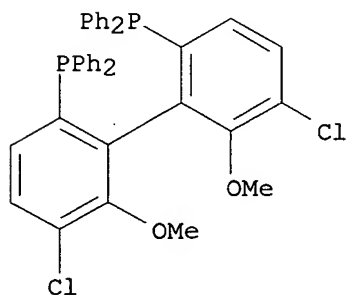
IT 185913-98-8

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of (benzylidene)tetrahydronaphthalenols and analogs via desymmetrizing intramol. Heck reaction of bis(homoallylic) alcs.)

RN 185913-98-8 CAPLUS

CN Phosphine, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 70 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:1127391 CAPLUS

DOCUMENT NUMBER: 142:56522

TITLE: Chiral ligands for application in asymmetric syntheses

INVENTOR(S): Mesequer, Benjamin; Arlt, Dieter

PATENT ASSIGNEE(S): Bayer Chemicals Ag, Germany

SOURCE: PCT Int. Appl., 28 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

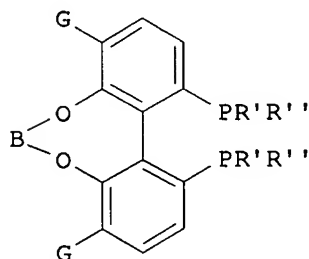
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004111063	A2	20041223	WO 2004-EP5930	20040602
WO 2004111063	A3	20050331		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10327109	A1	20041230	DE 2003-10327109	20030613
DE 10337013	A1	20050331	DE 2003-10337013	20030812

EP 1636243 A2 20060322 EP 2004-739512 20040602
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK
JP 2006527221 T 20061130 JP 2006-515817 20040602
US 2006161022 A1 20060720 US 2005-298641 20051208
US 2007004927 A1 20070104 US 2006-571722 20060313
PRIORITY APPLN. INFO.: DE 2003-10327109 A 20030613
DE 2003-10337013 A 20030812
WO 2004-EP5930 W 20040602
OTHER SOURCE(S): CASREACT 142:56522; MARPAT 142:56522
GI



I

AB The invention relates to the preparation of biaryl bisphosphines I (B = (CHR₁)_n(R₂C:CR₃)(CHR₄)_m, R₁-R₄ = H, alkyl, n, m = 1-8; G = Cl, H; R', R'' = aryl, alkyl) and intermediates thereof. Furthermore, the invention relates to catalysts produced from the biaryl bisphosphines and the use thereof in asym. syntheses. Thus, reaction of (S)-[5,5'-dichloro-6,6'-dihydroxybiphenyl-2,2'-diyl]bis(diphenylphosphine oxide) with allyl chloride in DMF in the presence of K₂CO₃ gave (S)-[5,5'-dichloro-6,6'-(1,4-but-2-enedioxy)biphenyl-2,2'-diyl]bis(diphenylphosphine oxide) as cocatalyst for ruthenium catalyzed enantioselective hydrogenation.

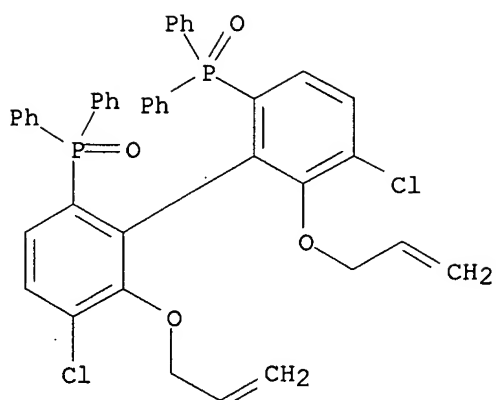
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810674-70-5P 810674-71-6P 810674-72-7P
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810674-76-1P 810674-77-2P 810674-78-3P
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810675-21-9P 810675-22-0P 810675-23-1P
810675-24-2P 810675-25-3P 810675-26-4P
810675-27-5P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(preparation of biaryl bisphosphines as chiral ligands for ruthenium complex catalyzed enantioselective hydrogenation or in asym. synthesis)

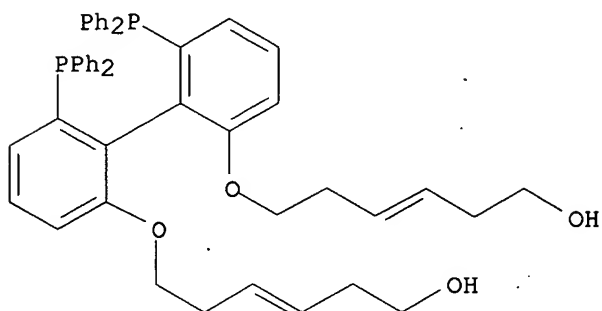
RN 810674-60-3 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



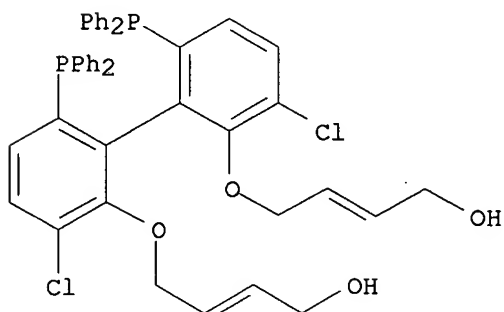
RN 810674-65-8 CAPLUS

CN 3-Hexen-1-ol, 6,6'-[[(1S)-6,6'-bis(diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (3Z,3'Z)- (9CI) (CA INDEX NAME)



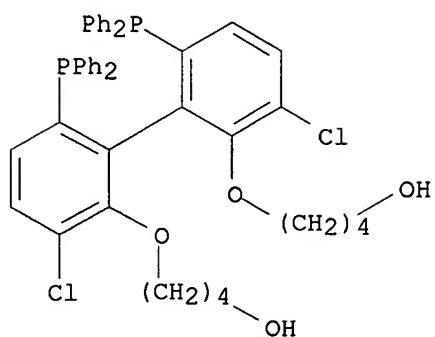
RN 810674-66-9 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)



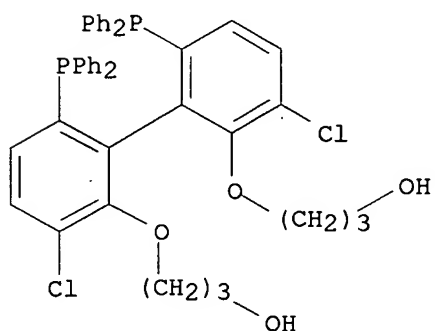
RN 810674-70-5 CAPLUS

CN 1-Butanol, 4,4'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



RN 810674-71-6 CAPLUS

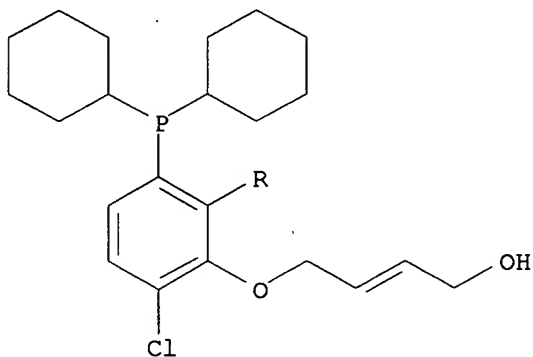
CN 1-Propanol, 3,3'-[[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

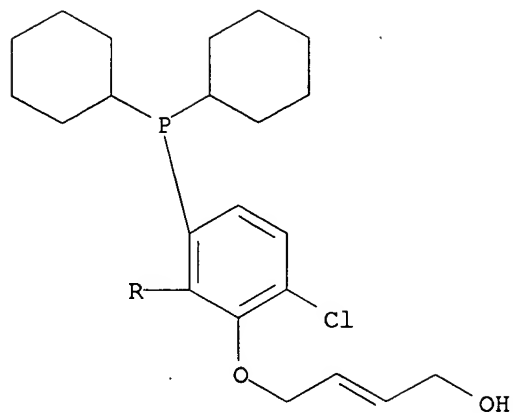


RN 810674-72-7 CAPLUS

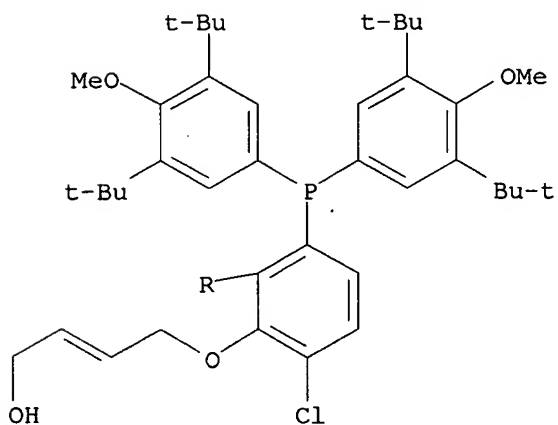
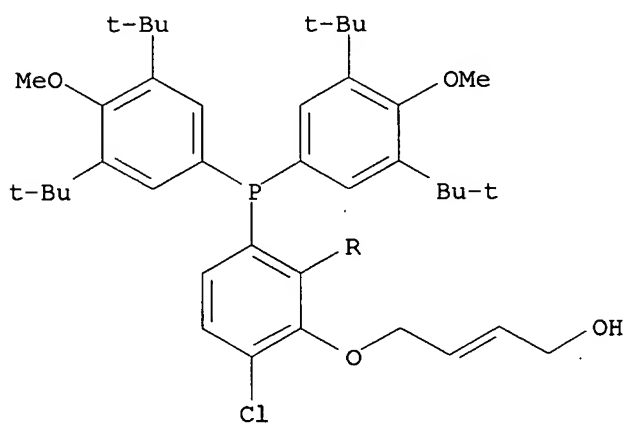
CN 2-Buten-1-ol, 4,4'-[[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

PAGE 1-A



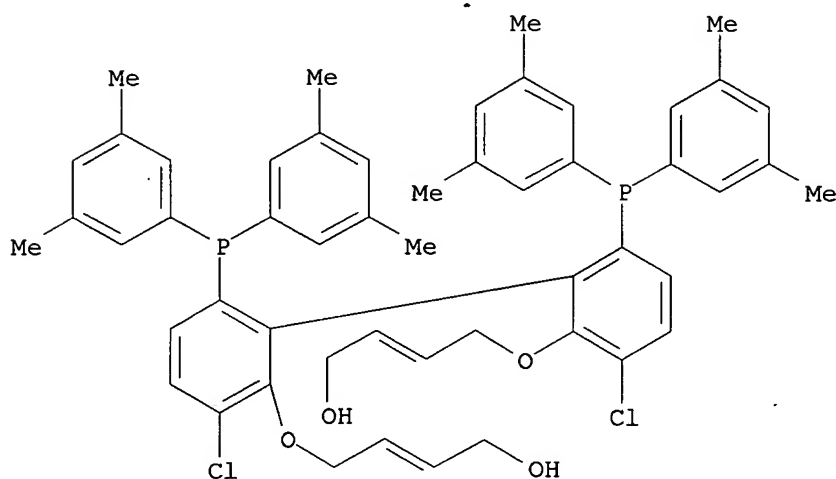


RN 810674-73-8 CAPLUS
 CN 2-Buten-1-ol, 4,4'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)



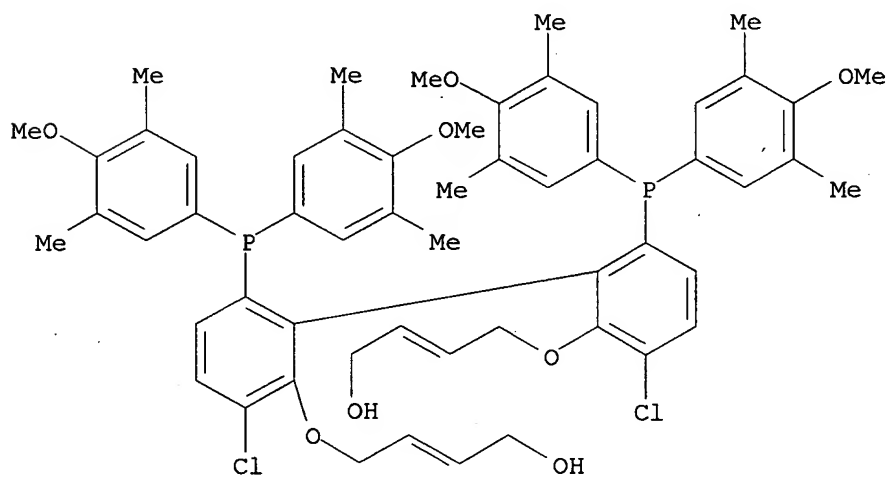
RN 810674-74-9 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis[bis(3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)



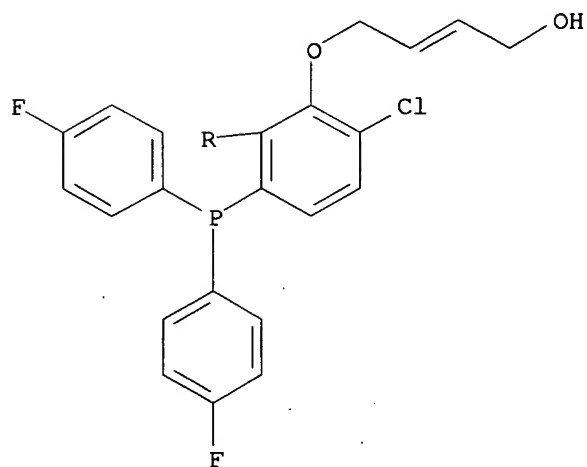
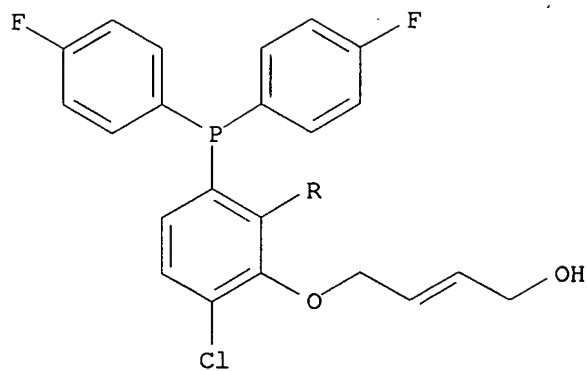
RN 810674-75-0 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

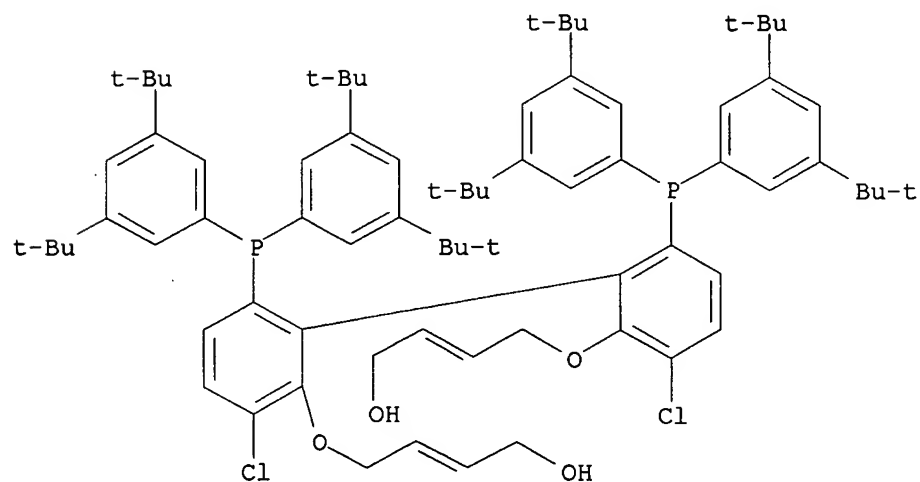


RN 810674-76-1 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

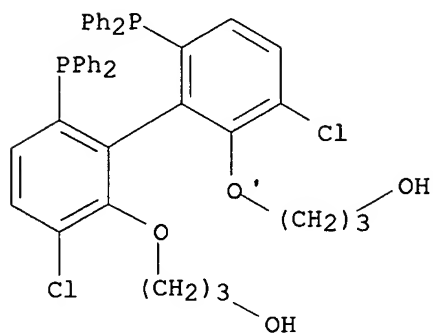


RN 810674-77-2 CAPLUS
 CN 2-Buten-1-ol, 4,4'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)



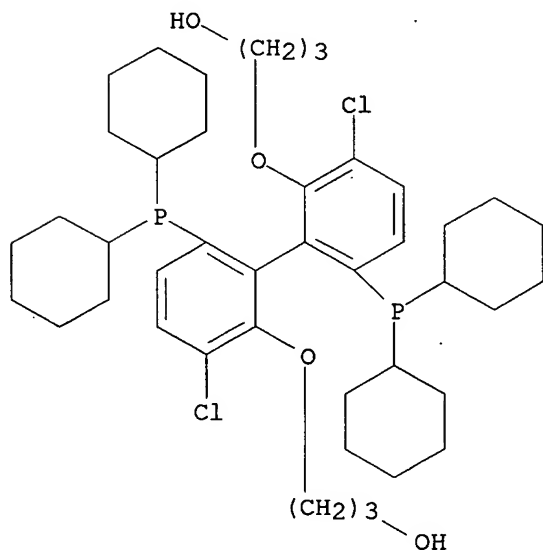
RN 810674-78-3 CAPLUS

CN 1-Propanol, 3,3'-[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



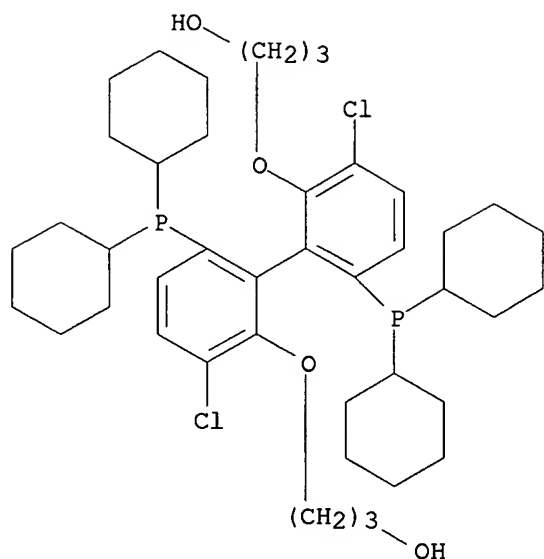
RN 810674-79-4 CAPLUS

CN 1-Propanol, 3,3'-[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



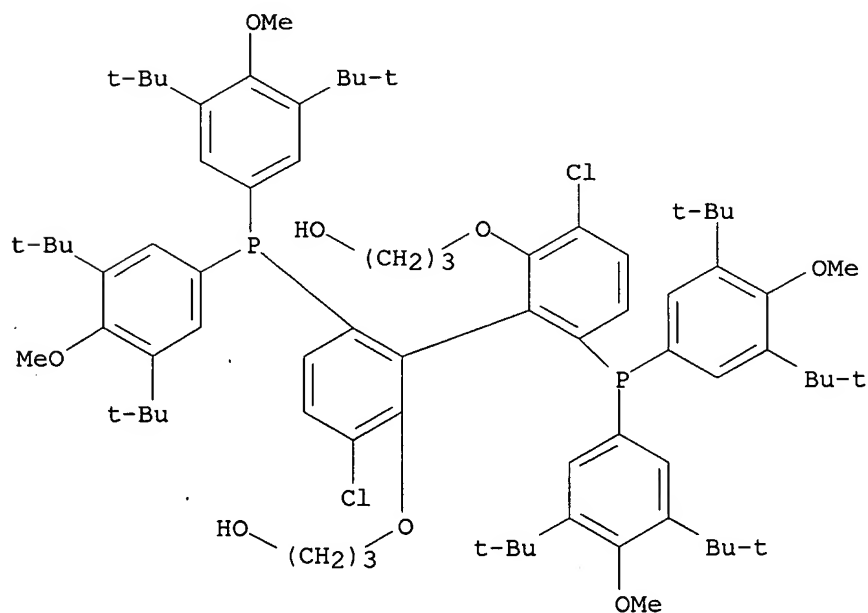
RN 810674-80-7 CAPLUS

CN 1-Propanol, 3,3'-[[(1S)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



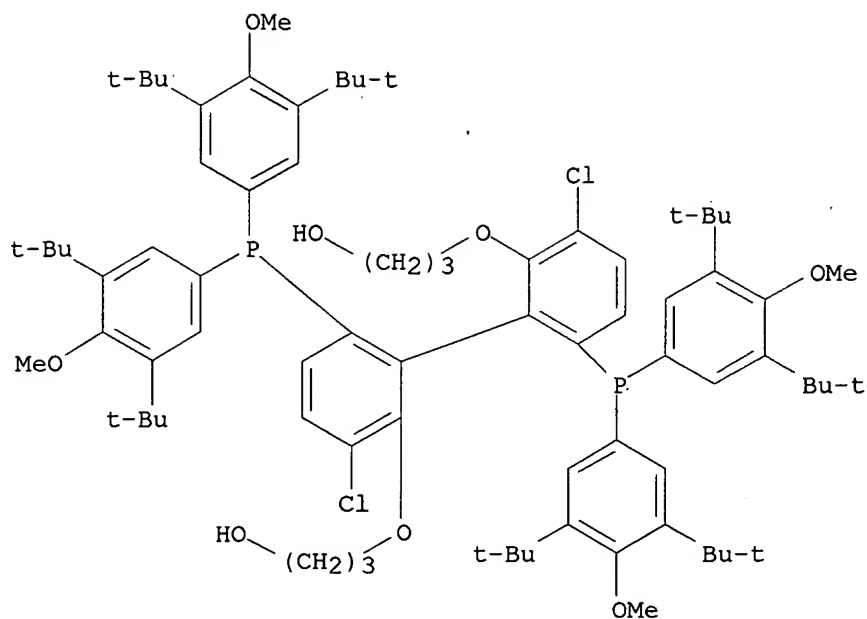
RN 810674-81-8 CAPLUS

CN 1-Propanol, 3,3'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



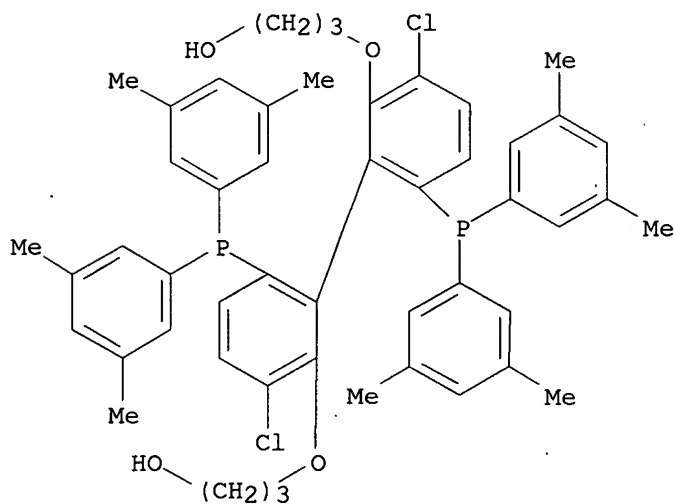
RN 810674-82-9 CAPLUS

CN 1-Propanol, 3,3'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



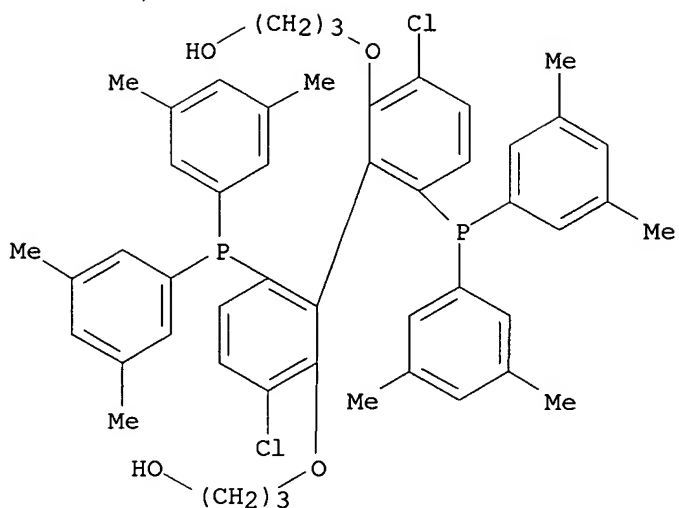
RN 810674-83-0 CAPLUS

CN 1-Propanol, 3,3'-[[(1R)-6,6'-bis[bis(3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



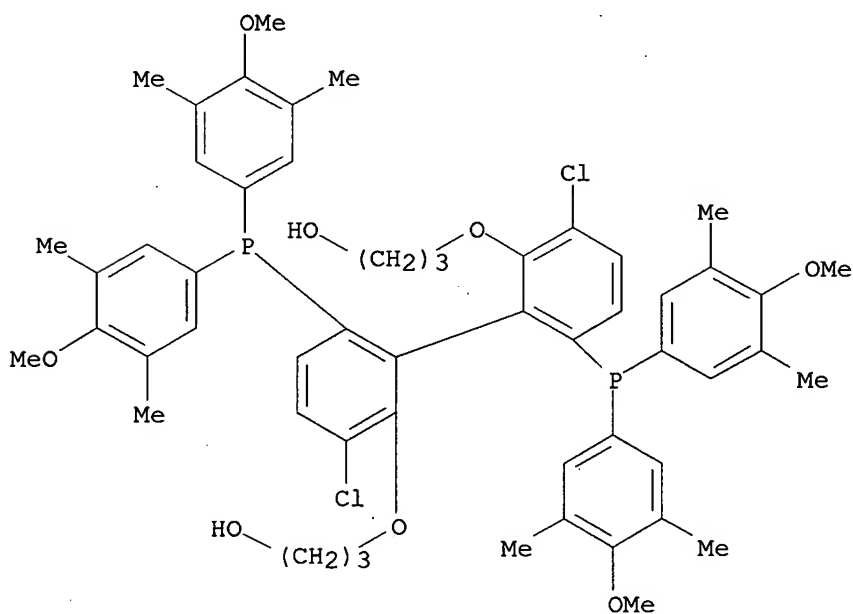
RN 810674-84-1 CAPLUS

CN 1-Propanol, 3,3'-[[(1S)-6,6'-bis[bis(3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



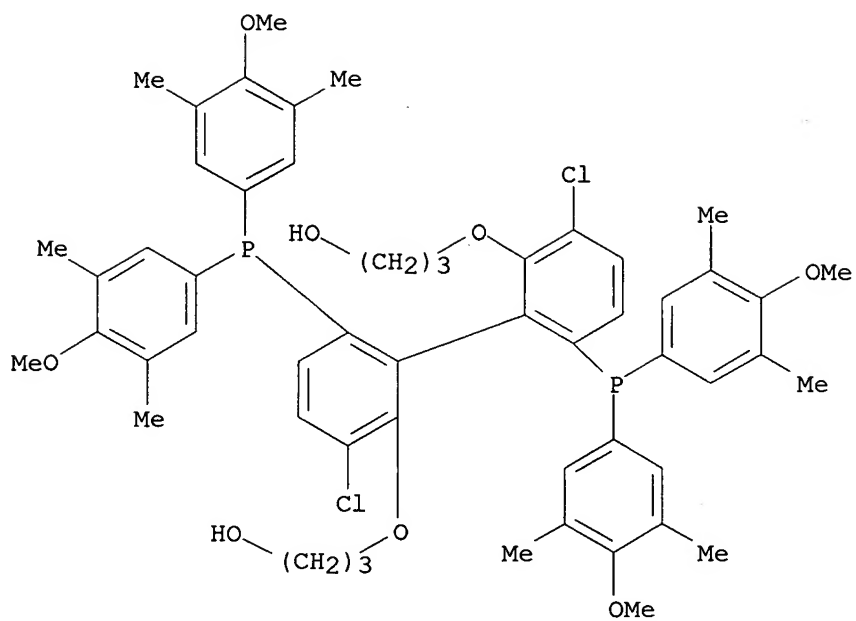
RN 810674-85-2 CAPLUS

CN 1-Propanol, 3,3'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



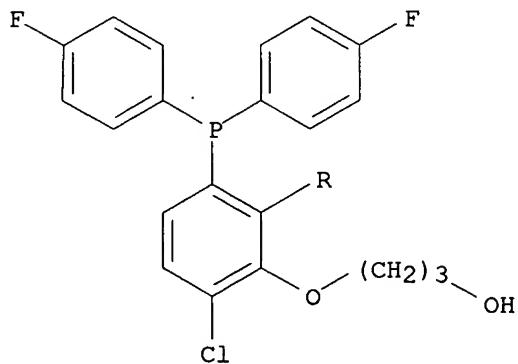
RN 810674-86-3 CAPLUS

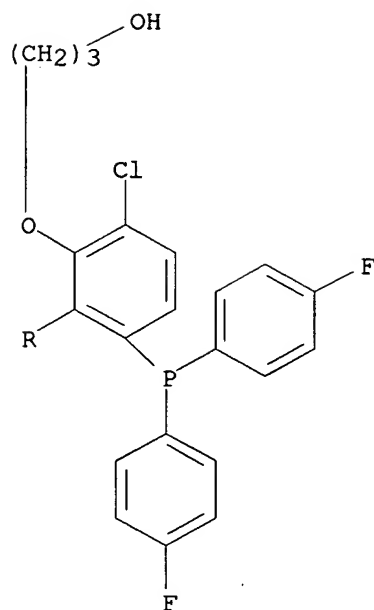
CN 1-Propanol, 3,3'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



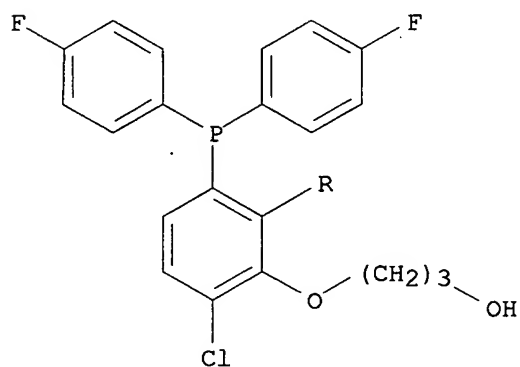
RN 810674-87-4 CAPLUS
 CN 1-Propanol, 3,3'-[[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

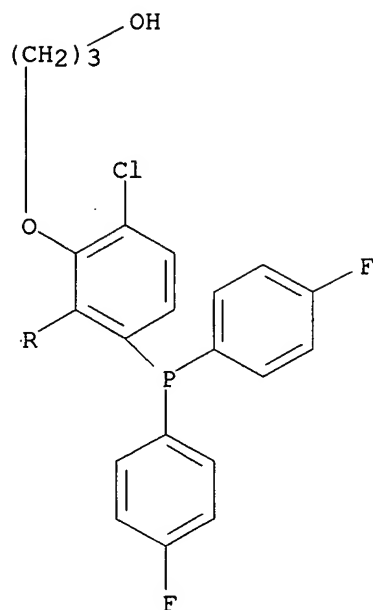
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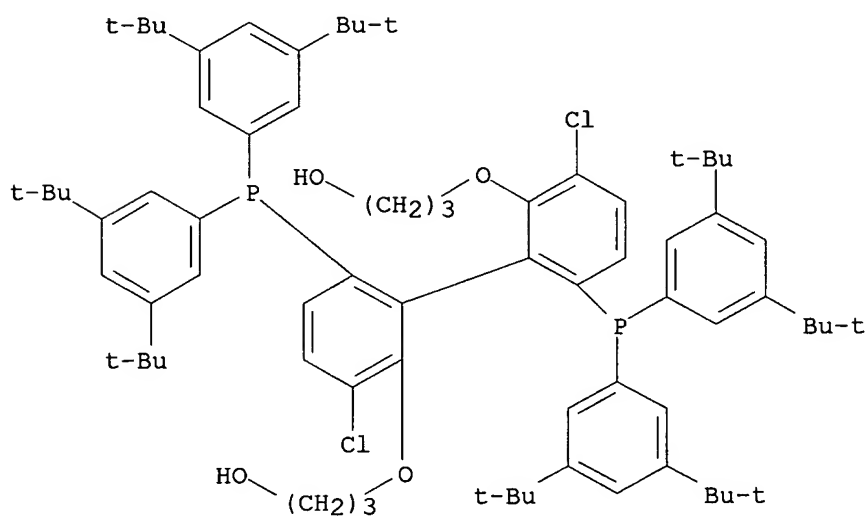


RN 810674-88-5 CAPLUS
 CN 1-Propanol, 3,3'-[[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

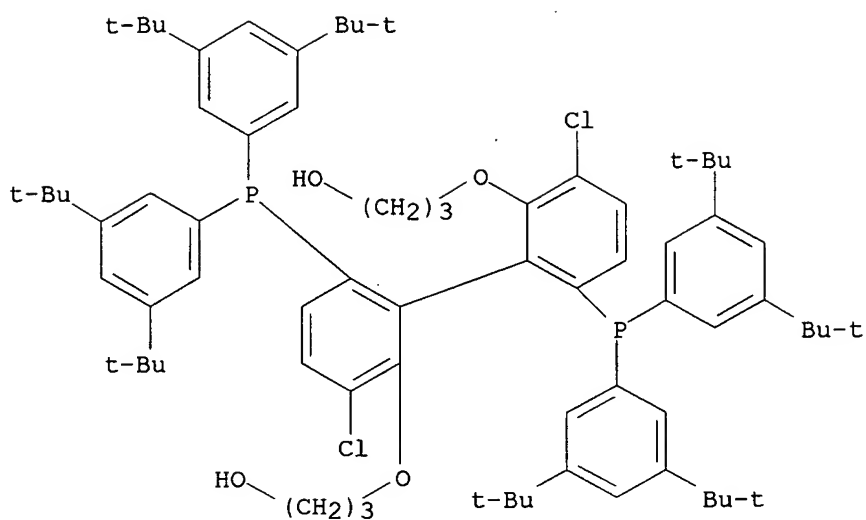




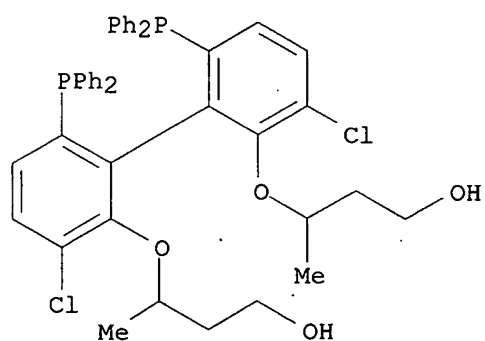
RN 810674-89-6 CAPLUS
 CN 1-Propanol, 3,3'-[[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



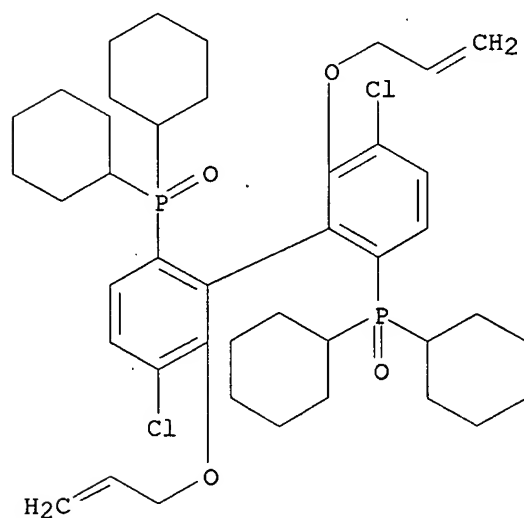
RN 810674-90-9 CAPLUS
 CN 1-Propanol, 3,3'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



RN 810674-91-0 CAPLUS
 CN 1-Butanol, 3,3'-[[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

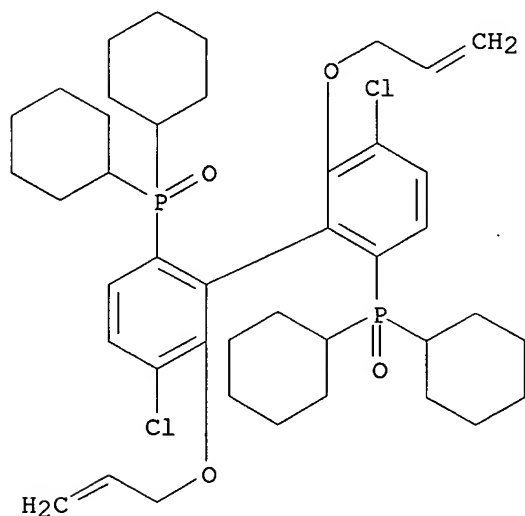


RN 810674-92-1 CAPLUS
 CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy) [1,1'-biphenyl]-2,2'-diyl]bis[dicyclohexyl- (9CI) (CA INDEX NAME)



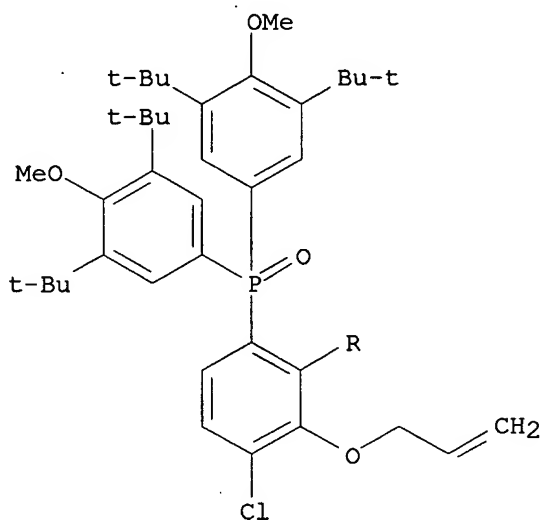
RN 810674-93-2 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[dicyclohexyl- (9CI) (CA INDEX NAME)]

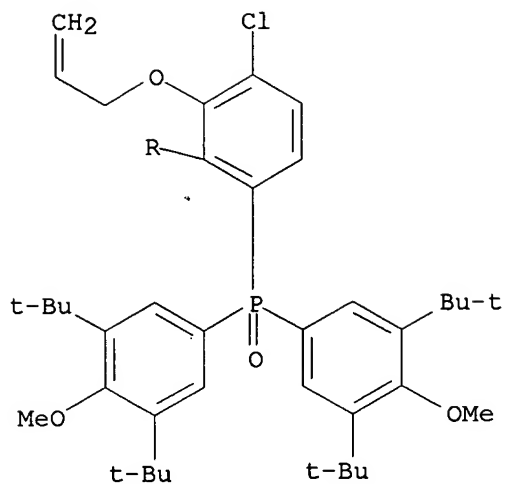


RN 810674-94-3 CAPLUS

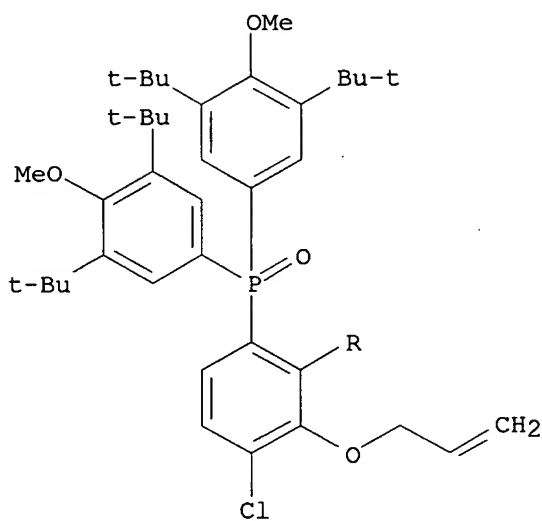
CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)]

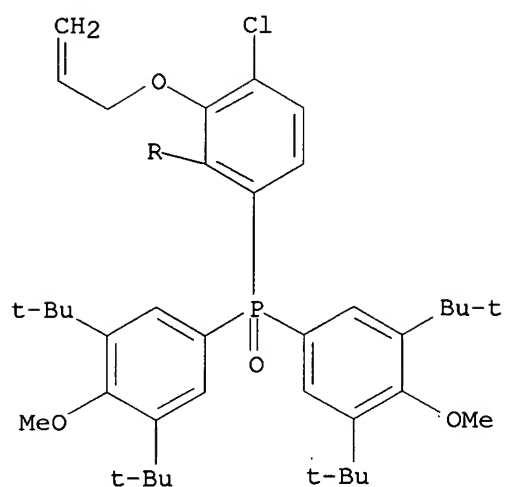


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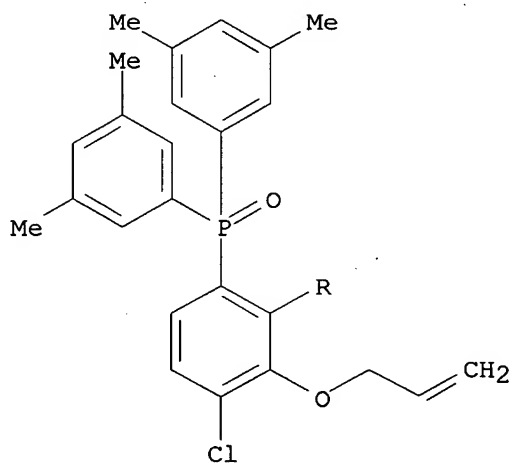


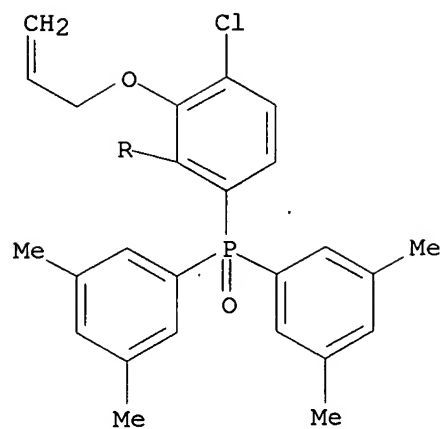
RN 810674-95-4 CAPLUS
 CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]-(9CI) (CA INDEX NAME)



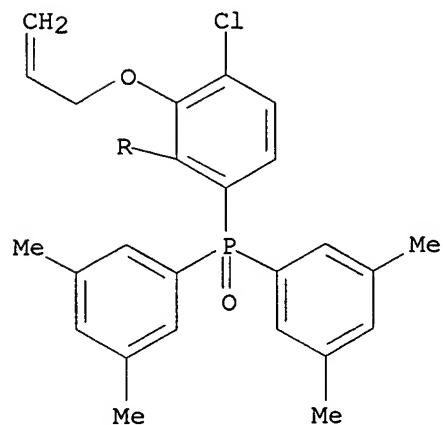
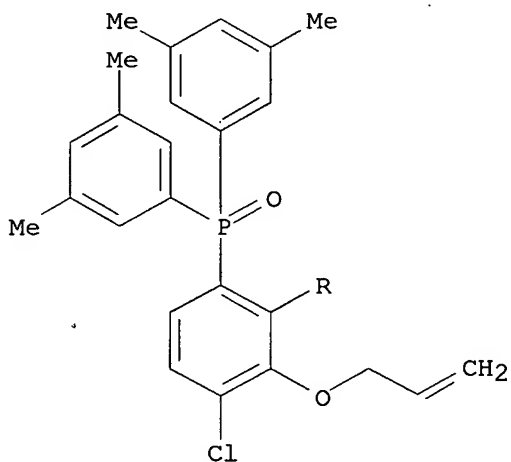


RN 810674-96-5 CAPLUS
 CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)-(9CI) (CA INDEX NAME)]



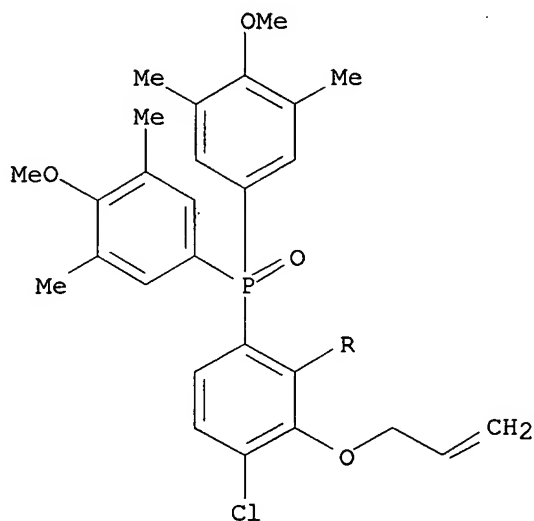


RN 810674-97-6 CAPLUS
 CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)-(9CI) (CA INDEX NAME)

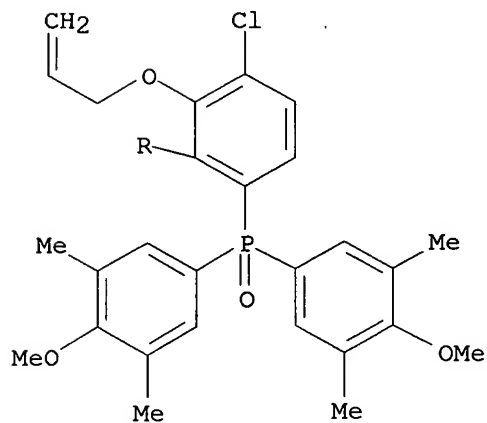


RN 810674-98-7 CAPLUS
 CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxy-3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

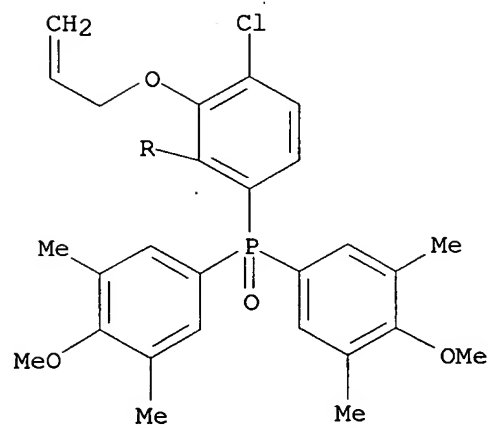
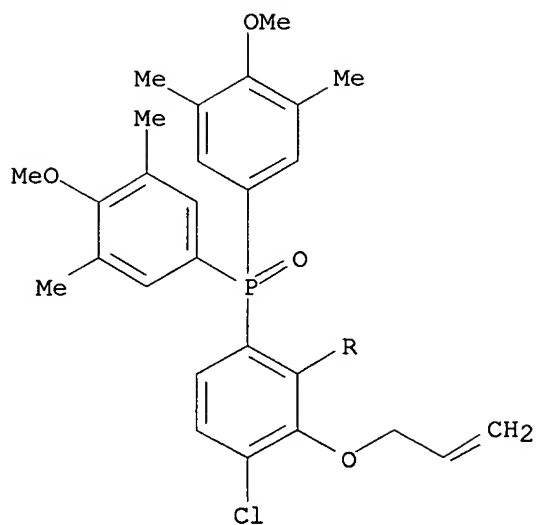
PAGE 1-A



PAGE 2-A

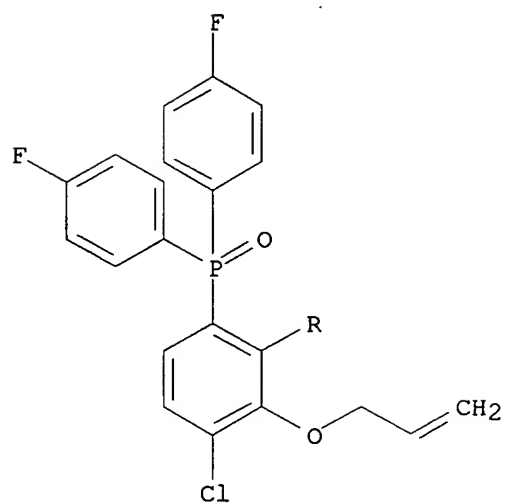


RN 810674-99-8 CAPLUS
 CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxy-3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

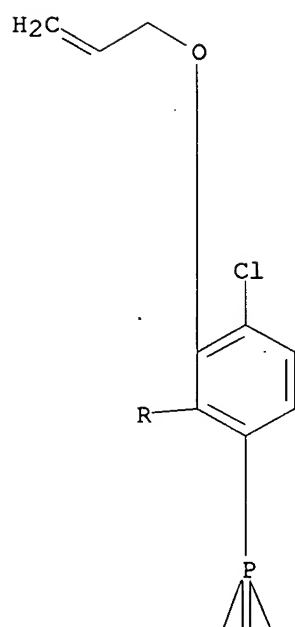


RN 810675-00-4 CAPLUS
 CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-fluorophenyl)- (9CI) (CA INDEX NAME)]

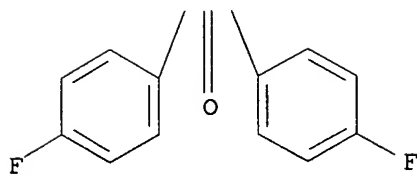
PAGE 1-A



PAGE 2-A

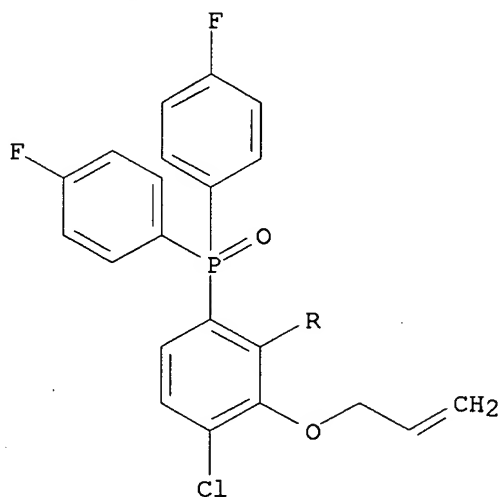


PAGE 3-A

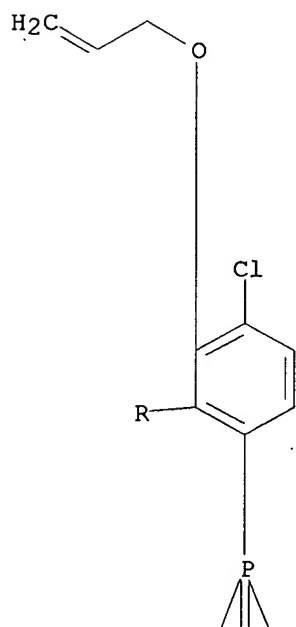


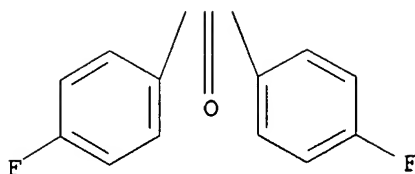
RN 810675-01-5 CAPLUS
 CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-fluorophenyl)- (9CI) (CA INDEX NAME)]

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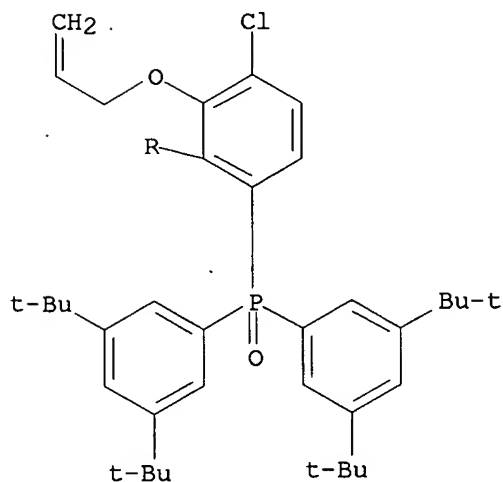
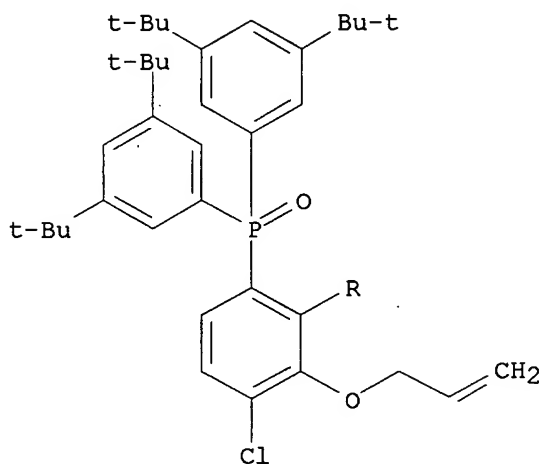


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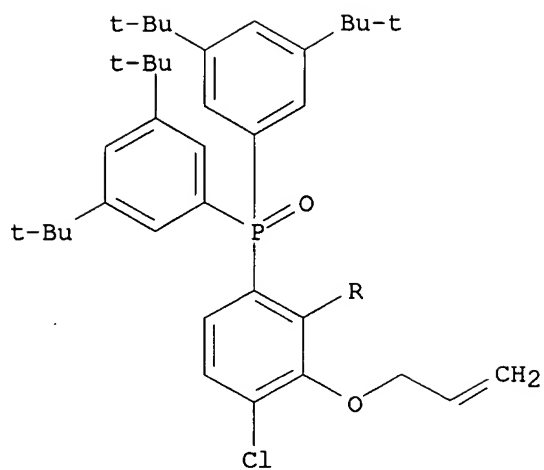


RN 810675-02-6 CAPLUS
 CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

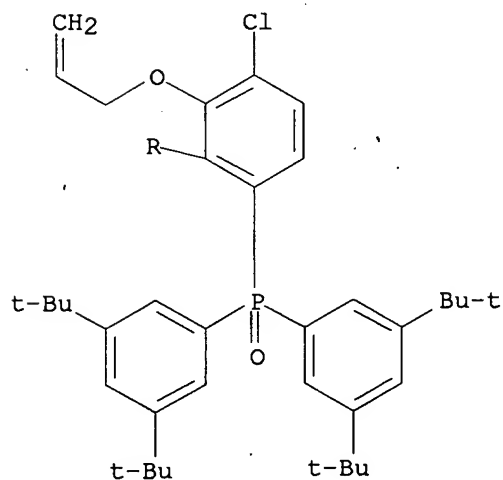


RN 810675-03-7 CAPLUS
 CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

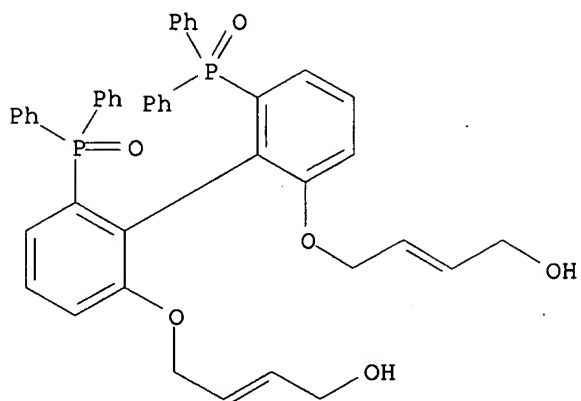
PAGE 1-A



PAGE 2-A

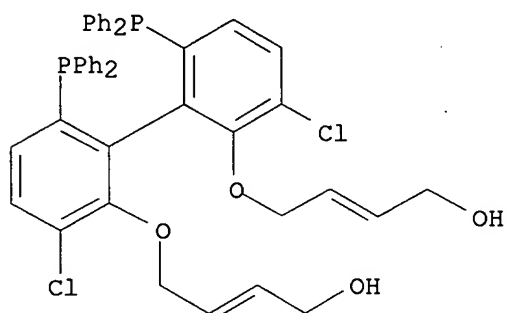


RN 810675-19-5 CAPLUS
 CN 2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis(diphenylphosphinyl) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)



RN 810675-20-8 CAPLUS

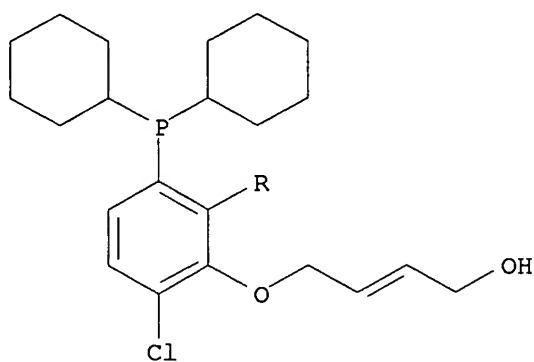
CN 2-Buten-1-ol, 4,4'-[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

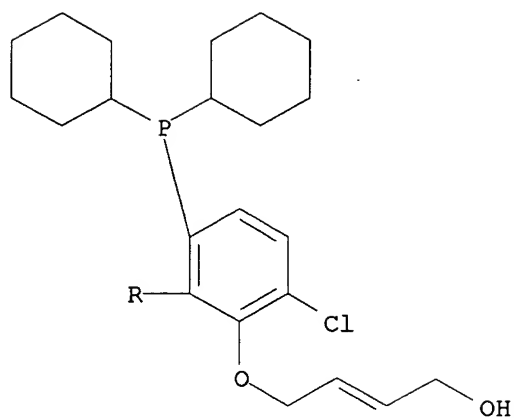


RN 810675-21-9 CAPLUS

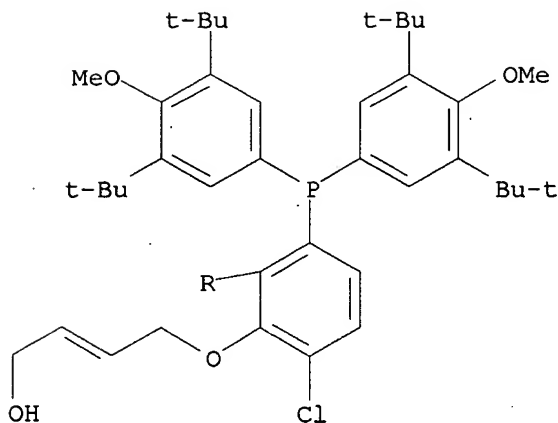
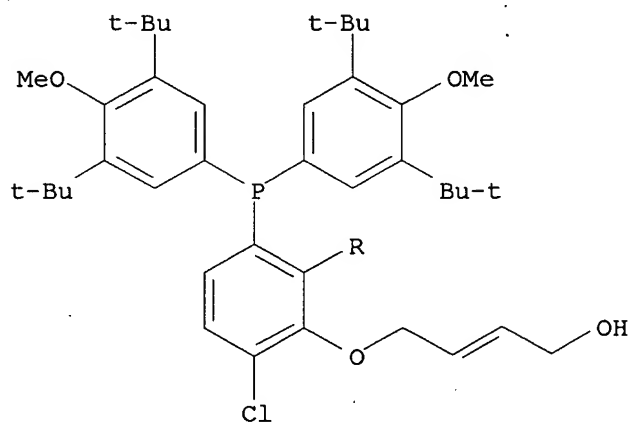
CN 2-Buten-1-ol, 4,4'-[[(1S)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

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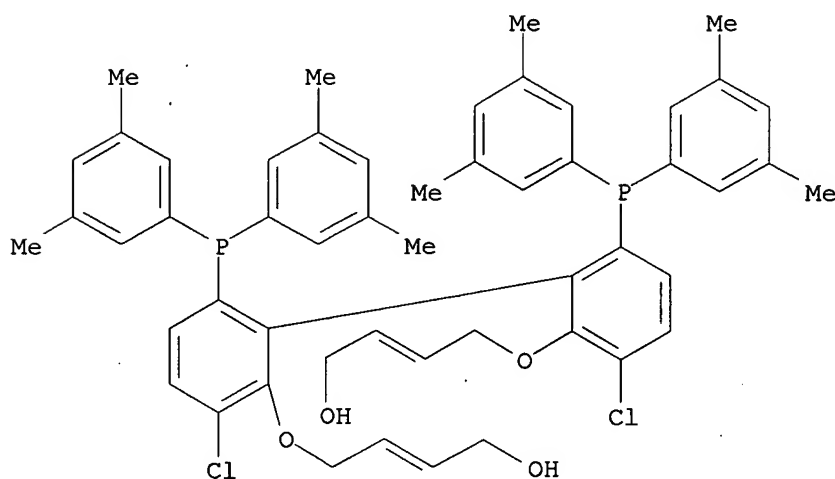


RN 810675-22-0 CAPLUS
 CN 2-Buten-1-ol, 4,4'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)



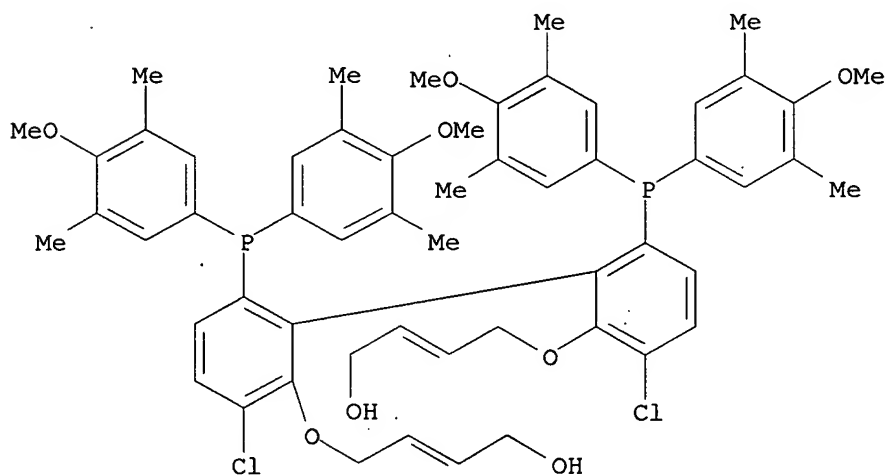
RN 810675-23-1 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1S)-6,6'-bis[bis(3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)



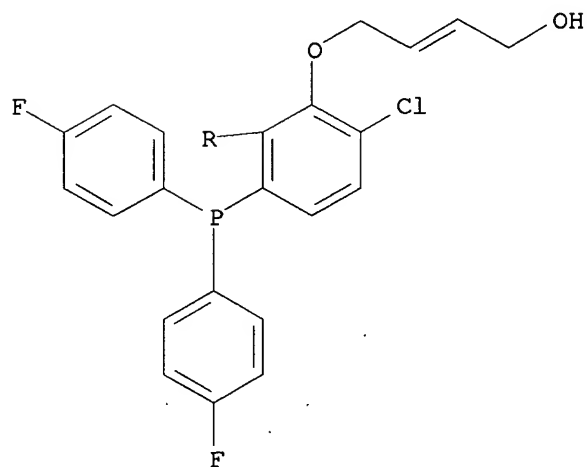
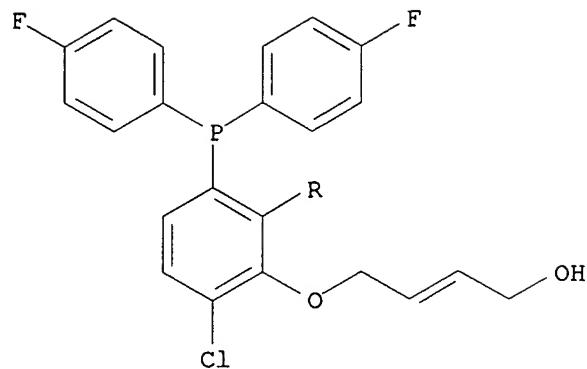
RN 810675-24-2 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

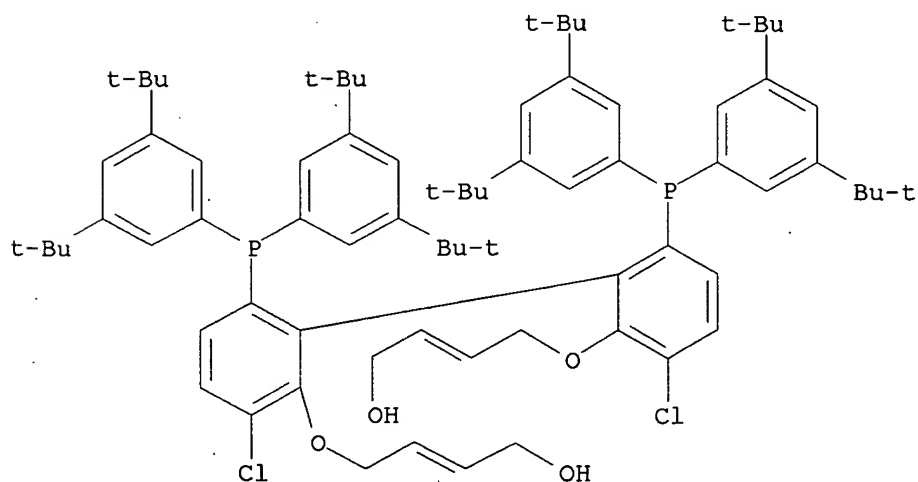


RN 810675-25-3 CAPLUS

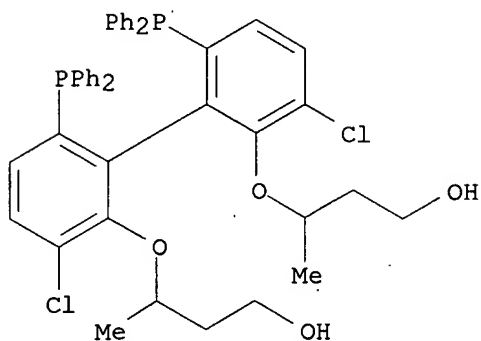
CN 2-Buten-1-ol, 4,4'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)



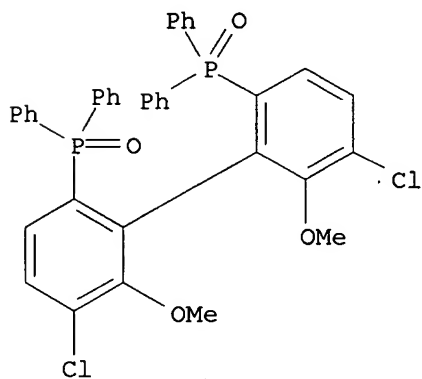
RN 810675-26-4 CAPLUS
 CN 2-Buten-1-ol, 4,4'-[[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)



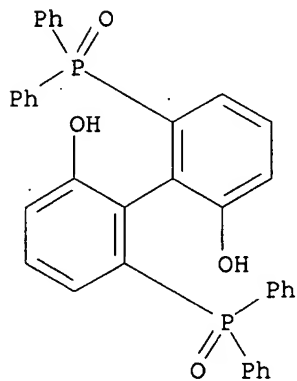
RN 810675-27-5 CAPLUS
 CN 1-Butanol, 3,3'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



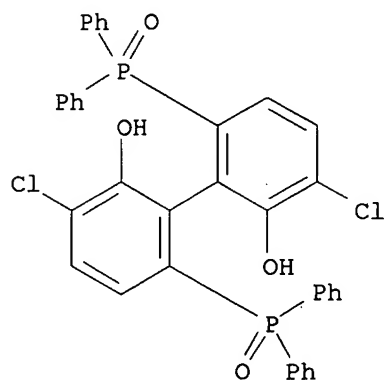
IT 185913-95-5 524711-75-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of biarylphosphines as chiral ligands for ruthenium complex catalyzed enantioselective hydrogenation or in asym. synthesis)
 RN 185913-95-5 CAPLUS
 CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



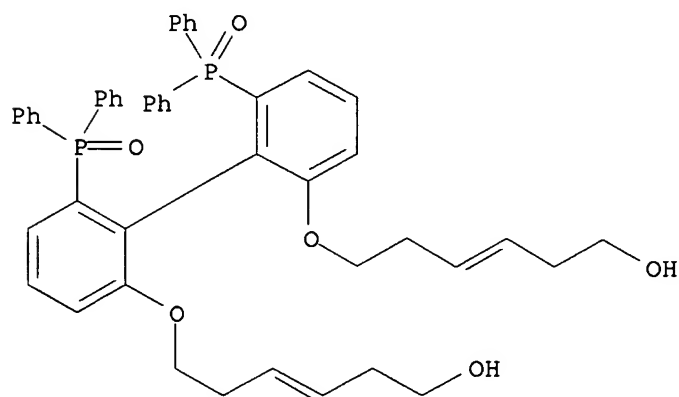
RN 524711-75-9 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA INDEX NAME)



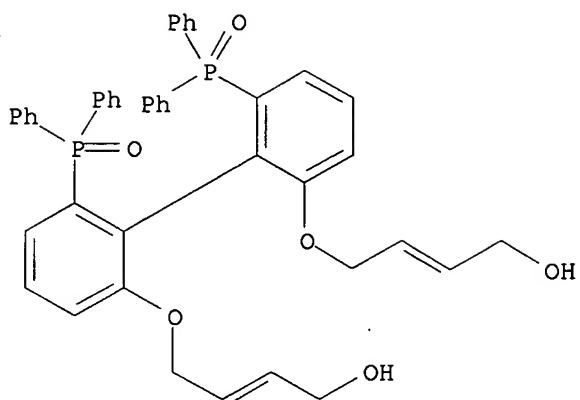
IT 691363-03-8P 810674-62-5P 810674-63-6P
 810674-67-0P 810674-68-1P 810674-69-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation of biarylbisphosphines as chiral ligands for ruthenium complex
 catalyzed enantioselective hydrogenation or in asym. synthesis)
 RN 691363-03-8 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphinyl)-,
 (1S)- (9CI) (CA INDEX NAME)



RN 810674-62-5 CAPLUS
 CN 3-Hexen-1-ol, 6,6'-[[(1S)-6,6'-bis(diphenylphosphinyl) [1,1'-biphenyl]-2,2'-
 diyl]bis(oxy)]bis-, (3Z,3'Z)- (9CI) (CA INDEX NAME)

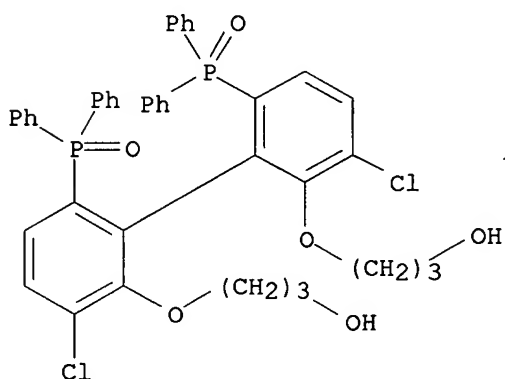


RN 810674-63-6 CAPLUS
 CN 2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis(diphenylphosphinyl) [1,1'-biphenyl]-2,2'-
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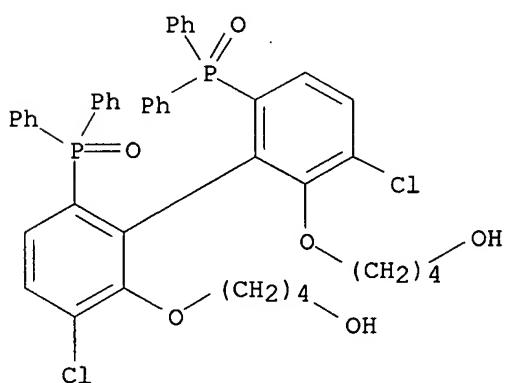
RN 810674-67-0 CAPLUS

CN 1-Propanol, 3,3'-[[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



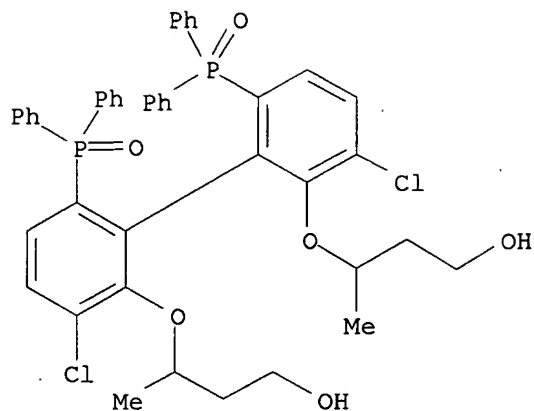
RN 810674-68-1 CAPLUS

CN 1-Butanol, 4,4'-[[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



RN 810674-69-2 CAPLUS

CN 1-Butanol, 3,3'-[[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



L3 ANSWER 71 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:944307 CAPLUS
 DOCUMENT NUMBER: 142:316861
 TITLE: Ir-catalyzed enantioselective hydrogenation of substituted aromatic pyridine and pyrazine rings
 INVENTOR(S): Zhou, Yonggui; Lu, Shengmei; Yang, Pengyu; Wang, Wenbo
 PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1468852	A	20040121	CN 2003-138283	20030530
PRIORITY APPLN. INFO.:			CN 2003-138283	20030530

OTHER SOURCE(S): CASREACT 142:316861

AB Enantioselective hydrogenation of substituted/fused aromatic pyridine and pyrazine compds. was realized in a solvent in the presence of a iridium catalyst system at 0-80°C under 1-100 atmospheric The catalyst system is composed of iridium catalyst, additive and P/N/O/S-containing chiral ligand. The invented process features mild reaction condition (e.g., rt, normal pressure) and high e.e. (generally >90%), and can be used to synthesize some important compds., such as angustreine. For instance, 2-methylquinoline was hydrogenated under 30-50 atm in the presence of [Ir(CO)2Cl]2, iodine and (R)-2,2'-Bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-diphenyl to give (R)-2-methyl-1,2,3,4-tetrahydroquinoline with 94% yield and 94% e.e.

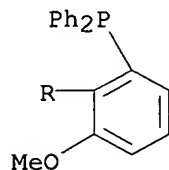
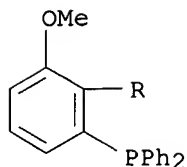
IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

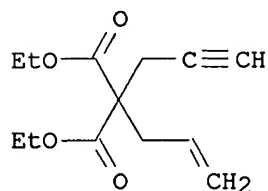
(ligand; Ir-catalyzed enantioselective hydrogenation of substituted aromatic pyridine and pyrazine rings)

RN 133545-16-1 CAPLUS

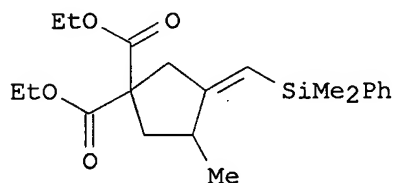
CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl]- (CA INDEX NAME)



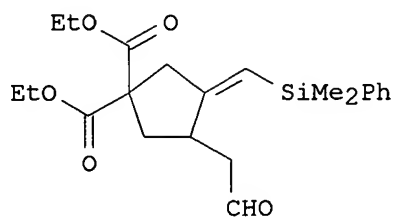
L3 ANSWER 72 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:815427 CAPLUS
 DOCUMENT NUMBER: 142:6242
 TITLE: Catalytic asymmetric carbonylative
 silylcarbocyclization of enynes
 AUTHOR(S): Maerten, Eddy; Delerue, Helene; Queste, Mathieu;
 Nowicki, Audrey; Suisse, Isabelle;
 Agbossou-Niedercorn, Francine
 CORPORATE SOURCE: Laboratoire de Catalyse de Lille, ENSCL, UMR CNRS
 8010, Villeneuve d'Ascq, 59652, Fr.
 SOURCE: Tetrahedron: Asymmetry (2004), 15(19), 3019-3022
 CODEN: TASYE3; ISSN: 0957-4166
 PUBLISHER: Elsevier B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 142:6242
 GI



I



II



III

AB Rh-, Co- or Ir-promoted cyclization of 1,6-enynes in the presence of a hydrosilane and carbon monoxide leads to the selective formation of functionalized cyclic compds. Various chiral phosphine type ligands have been used in order to obtain enantiomerically enriched carbocycles. The asym. process proceeded with modest enantioselectivities. The catalyst was formed in situ by reaction of the metallic precursor with the reducing agent and the selected ligand. After 2 h the enyne was added, followed by

carbon monoxide. Thus, dimethyl(phenyl)silane was added to dicarbonyl(2,4-pentanedionato- κ O, κ O')rhodium/(R)-BINAP, then (2-propenyl)(2-propynyl)propanedioic acid di-Et ester (enyne) (I) was added, followed by carbon monoxide. The products thus formed were 3-[(dimethylphenylsilyl)methylene]-4-methyl-1,1-cyclopentanedicarboxylic acid di-Et ester (II) and 3-[(dimethylphenylsilyl)methylene]-4-methyl-1,1-cyclopentanedicarboxylic acid di-Et ester (III). The product ratio of II:III was 1:15, and III was formed in 27% enantiomeric excess.

IT 133545-16-1, [(1R)-6,6'-Dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenylphosphine]

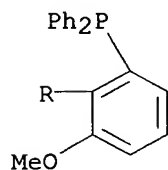
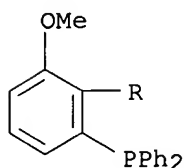
RL: RGT (Reagent); RACT (Reactant or reagent)

(preparation of cycloalkane derivative by carbonylative silylcarbocyclization

using enyne, silane, and carbon monoxide as starting materials, rhodium, iridium, or cobalt as catalyst, and (R)-MeO-BIPHEP as chiral ligand)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 73 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:792317 CAPLUS

DOCUMENT NUMBER: 141:424404

TITLE: Synthesis of both syn and anti diastereoisomers of BOC-dolaproine from (S)-proline through DKR using ruthenium-catalyzed hydrogenation: a dramatic role of N-protecting groups

AUTHOR(S): Mordant, Celine; Reymond, Sebastien; Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre
CORPORATE SOURCE: Laboratoire de Synthèse Sélective Organique et Produits Naturels, E.N.S.C.P., UMR 7573, Paris, F-75231, Fr.

SOURCE: Tetrahedron (2004), 60(43), 9715-9723
CODEN: TETRAB; ISSN: 0040-4020

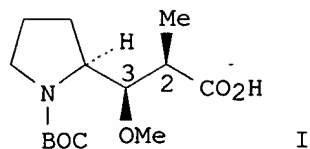
PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

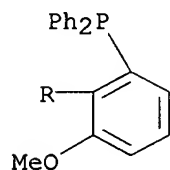
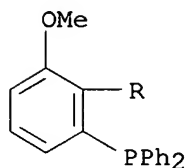
LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:424404

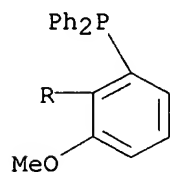
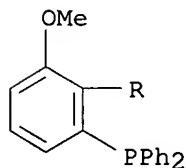
GI



- AB The natural (2R,3R)-BOC-dolaproine (I) and its unnatural (2S,3S)-diastereoisomer were synthesized involving as key transformation the Ru(II)-promoted hydrogenation of the β -keto- α -Me ester derived from (S)-N-BOC-proline. Interestingly, the asym. hydrogenation of this β -keto ester N-protected as an amine hydrochloride salt, provided the corresponding anti (2S,3R)- and (2R,3S)- β -hydroxy- α -Me esters with significant level of selectivities through dynamic kinetic resolution
- IT 133545-16-1, (R)-MeO-BIPHEP 133545-17-2
 RL: CAT (Catalyst use); USES (Uses)
 (asym. synthesis of both syn and anti diastereoisomers of BOC-dolaproine from (S)-proline through dynamic kinetic resolution using ruthenium-catalyzed hydrogenation)
- RN 133545-16-1 CAPLUS
- CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]

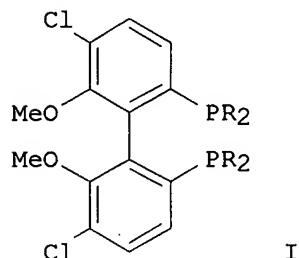


- RN 133545-17-2 CAPLUS
- CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

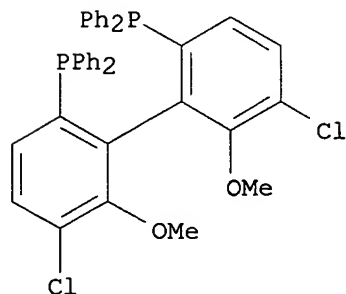
L3 ANSWER 74 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:704236 CAPLUS
DOCUMENT NUMBER: 142:210665
TITLE: New route to biaryl phosphanes with axial chirality as ligands for enantioselective hydrogenations
AUTHOR(S): Driessen-Hoelscher, Birgit; Kralik, Joachim; Agel, Friederike; Steffens, Christian; Hu, Chunhua
CORPORATE SOURCE: Institute of Technical Chemistry and Macromolecular Chemistry, Faculty of Sciences, Technical Chemistry, RWTH Aachen and University of Paderborn, Paderborn, 33098, Germany
SOURCE: Advanced Synthesis & Catalysis (2004), 346(8), 979-982
CODEN: ASCAF7; ISSN: 1615-4150
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:210665
GI



AB The authors found a modular route for the synthesis of Cl-MeOBIPHEP ligands (I; R = Ph, p-FC6H4, xylyl, 2-furyl, 2,5-(MeO)2C6H3) via the corresponding biphenol that allows the authors to introduce several substituents without the necessity to sep. the enantiomers of each derivative. These new diphosphines were used to preparation Ru(I) (O2CCF3)2 for use in the Ru-catalyzed enantioselective hydrogenation of di-Me itaconate with ee values up to 97%.

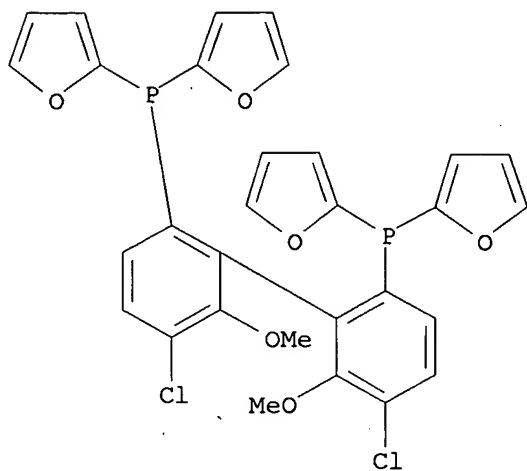
IT 185913-97-7P 403657-35-2P 403657-36-3P
403657-37-4P 838836-65-0P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)
(preparation as hydrogenation catalyst for di-Me itaconate)

RN 185913-97-7 CAPLUS
CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



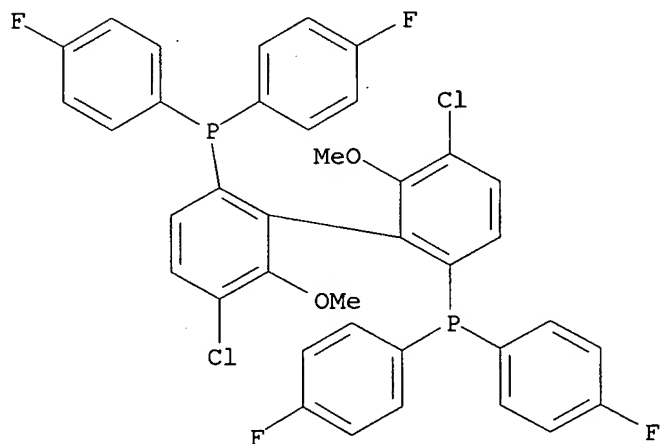
RN 403657-35-2 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl- (9CI) (CA INDEX NAME)]



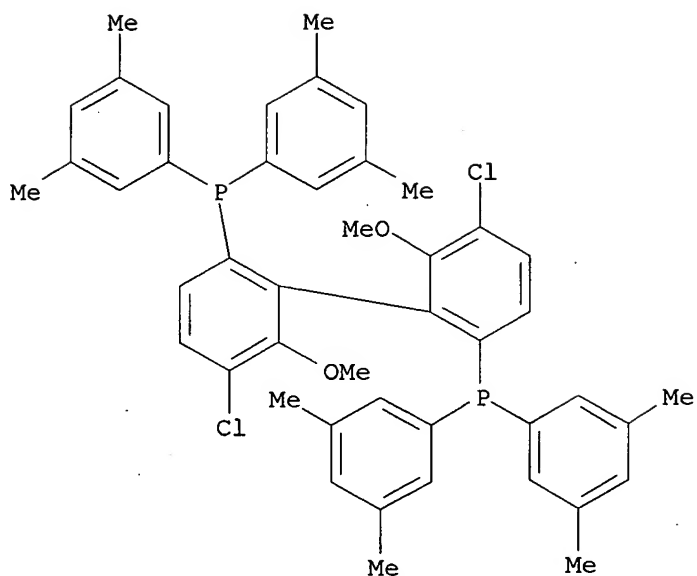
RN 403657-36-3 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-fluorophenyl)- (9CI) (CA INDEX NAME)]



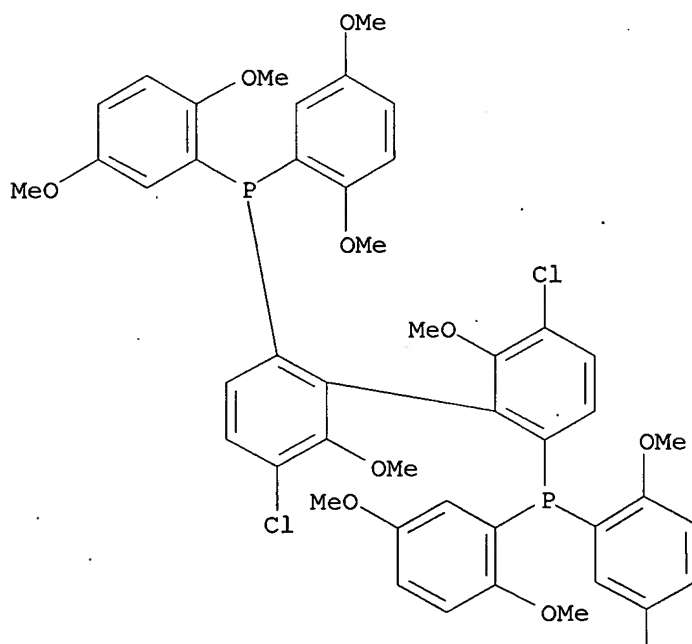
RN 403657-37-4 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)]



RN 838836-65-0 CAPLUS
 CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(2,5-dimethoxyphenyl)-(9CI) (CA INDEX NAME)].

PAGE 1-A

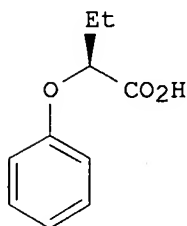


PAGE 2-A

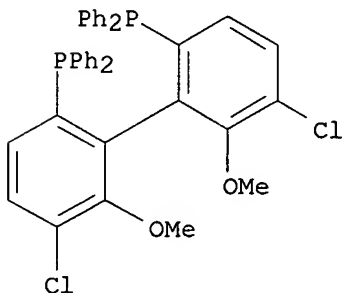
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REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS

L3 ANSWER 75 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:629985 CAPLUS
 DOCUMENT NUMBER: 141:295691
 TITLE: Enantioselective hydrogenation of α -aryloxy
 α,β -unsaturated acids. Asymmetric synthesis
 of α -aryloxycarboxylic acids
 AUTHOR(S): Maligres, Peter E.; Krska, Shane W.; Humphrey, Guy R.
 CORPORATE SOURCE: Department of Process Research, Merck & Co., Inc.,
 Rahway, NJ, 07065, USA
 SOURCE: Organic Letters (2004), 6(18), 3147-3150
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 141:295691
 GI



AB A facile preparation of chiral α -aryloxy carboxylic acids, e.g., I, by
 asym. hydrogenation of the corresponding unsatd. acids has been
 discovered. A number of catalysts have been identified that give high
 product enantioselectivity, and the scope of the reaction has been examined
 with respect to substitution on the aromatic ring and olefin.
 IT 185913-97-7
 RL: CAT (Catalyst use); USES (Uses)
 (stereoselective preparation of α -aryloxy carboxylic acids via
 substitution of bromoalkenoates with phenols followed by hydrolysis and
 ruthenium-catalyzed asym. hydrogenation in the presence of chiral
 phosphine ligands)
 RN 185913-97-7 CAPLUS
 CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
 diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



REFERENCE COUNT: 66 THERE ARE 66 CITED REFERENCES AVAILABLE FOR THIS

L3 ANSWER 76 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:626153 CAPLUS

DOCUMENT NUMBER: 141:313978

TITLE: Novel silica gel supported chiral biaryl-diphosphine ligands for enantioselective hydrogenation

AUTHOR(S): Steiner, Ivo; Aufdenblatten, Rhony; Togni, Antonio; Blaser, Hans-Ulrich; Pugin, Benoit

CORPORATE SOURCE: Laboratory of Inorganic Chemistry, ETH Honggerberg, Swiss Federal Institute of Technology, Zurich, CH-8093, Switz.

SOURCE: Tetrahedron: Asymmetry (2004), 15(14), 2307-2311

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:313978

AB The synthesis of functionalized Biphep and MeO-Biphep biaryl diphosphine ligands and their covalent attachment to silica gel are described. The catalytic performance of the immobilized ligands was tested in the asym. hydrogenation of Me acetamidocinnamate with Rh and of Me phenylglyoxylate with Ru and compared with that of the homogeneous analogs. With the exception of a Rh catalyzed hydrogenation, where an increase of ee from 29% for the unfunctionalized ligand, to 40% for the functionalized ligand and 45% for the immobilized ligand was observed, functionalization and immobilization did not significantly affect the catalytic properties. The best ees of 90% were obtained for the Ru catalyzed hydrogenation of Me phenylglyoxylate with the immobilized MeO-Biphep ligand and are comparable with those of the homogeneous catalyst. Recycling of the immobilized catalysts resulted in a significant drop in activity for the Rh catalysts, whereas the Ru catalysts were much more robust and could be used in >10 catalytic runs.

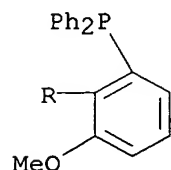
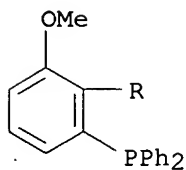
IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(preparation of silica gel supported chiral biaryl-diphosphine ligands for enantioselective hydrogenation)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

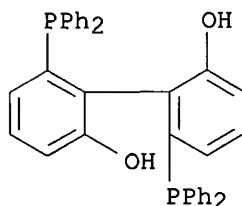


IT 151395-61-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of silica gel supported chiral biaryl-diphosphine ligands for enantioselective hydrogenation)

RN 151395-61-8 CAPLUS
CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 77 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:626146 CAPLUS

DOCUMENT NUMBER: 141:313992

TITLE: New developments in the synthesis of heterotopic atropisomeric diphosphines via diastereoselective aryl coupling reactions

AUTHOR(S): Madec, Jonathan; Michaud, Guillaume; Genet, Jean-Pierre; Marinetti, Angela

CORPORATE SOURCE: Laboratoire de Synthèse Selective Organique et Produits Naturels, UMR 7573, ENSCP 11, Paris, 75231, Fr.

SOURCE: Tetrahedron: Asymmetry (2004), 15(14), 2253-2261
CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:313992

AB The new heterotopic atropisomeric diphosphine (R)-5,6-benzo-2,2'-bis(diphenylphosphino)-4',5',6'-trimethylbiphenyl has been prepared. The key step of this synthesis is a diastereoselective, intramol. aryl-aryl coupling reaction via oxidation of a suitable, chiral diarylcuprate. The catalytic properties of the diphosphine in ruthenium promoted hydrogenations of model substrates and in rhodium promoted 1,4-addns. of boronic acids to α,β -unsatd. ketones are fully comparable to those of reference ligands such as BINAP. This seems to indicate that C2-symmetry is not a structural prerequisite for atropisomeric chiral diphosphines to obtain high enantioselectivities in 1,4-addition reactions as well as in hydrogenation reactions.

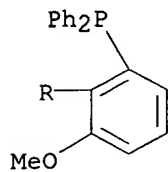
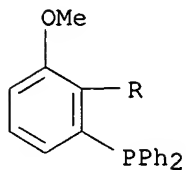
IT 133545-16-1 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(preparation of heterotopic atropisomeric diphosphines as chiral ligands in rhodium-catalyzed coupling reactions and hydrogenations)

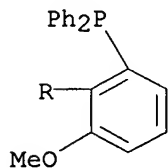
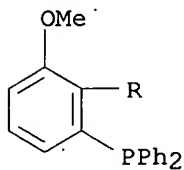
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)



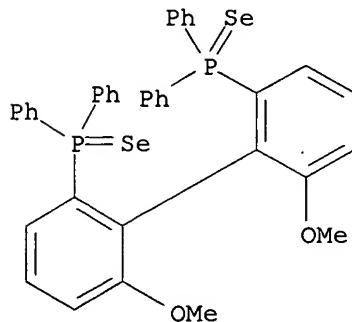
IT 767323-59-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of heterotopic atropisomeric diphosphines as chiral ligands in rhodium-catalyzed coupling reactions and hydrogenations)

RN 767323-59-1 CAPLUS

CN Phosphine selenide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

26

THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 78 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:626137 CAPLUS

DOCUMENT NUMBER: 141:295641

TITLE: Asymmetric cyclocarbonylation of 1,6-enynes with cobalt catalysts

AUTHOR(S): Schmid, Thomas M.; Consiglio, Giambattista

CORPORATE SOURCE: Eidgenossische Technische Hochschule, ETH-Honggerberg, Institut fur Chemie und Bioingenieurwissenschaften, Zurich, CH-8093, Switz.

SOURCE: Tetrahedron: Asymmetry (2004), 15(14), 2205-2208

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:295641

AB Octacarbonyldicobalt or Co(II) salts in the presence of (R)-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine) were active and highly enantioselective catalyst for the cyclocarbonylation of enynes such as 4,4-bis(carboethoxy)hex-6-en-1-yne. The reactivity of both catalytic systems towards cyclocarbonylation increased when the CO pressure was increased. However, when a stoichiometric amount of ligand was used, with respect to the catalyst, the enantioselectivity decreased, but increased again as the ligand-to-Co molar ratio increased.

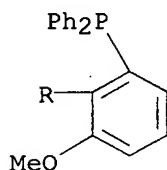
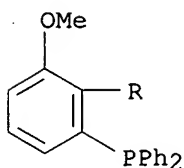
IT 133545-16-1, (R)-(6,6'-Dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine)

RL: CAT (Catalyst use); USES (Uses)

(stereoselective preparation of di-Et oxobicyclooctenedicarboxylate via cobalt catalyzed asym. Pauson-Khand cyclocarbonylation of di-Et allyl(propargyl)malonate)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 79 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:617746 CAPLUS

DOCUMENT NUMBER: 141:313971

TITLE: A Palladium-Catalyzed Enantioselective Alkylative Desymmetrization of meso-Succinic Anhydrides

AUTHOR(S): Bercot, Eric A.; Rovis, Tomislav

CORPORATE SOURCE: Department of Chemistry, Colorado State University, Fort Collins, CO, 80523, USA

SOURCE: Journal of the American Chemical Society (2004),

126(33), 10248-10249
CODEN: JACSAT; ISSN: 0002-7863

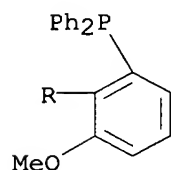
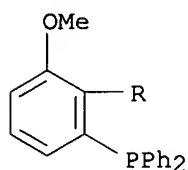
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:313971

AB Monoalkylation of cyclic anhydrides provides an opportunity to couple a carbon-carbon bond-forming event with the control of backbone stereochem. A palladium-JOSIPHOS catalyst system has been developed that desymmetrizes meso-succinic anhydrides using organozinc reagents as nucleophiles, and in many cases, this reaction proceeds at ambient temperature

IT 133545-17-2
RL: CAT (Catalyst use); USES (Uses)
(palladium-catalyzed enantioselective arylative desymmetrization of meso-succinic anhydrides)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 80 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:613893 CAPLUS

DOCUMENT NUMBER: 142:176516

TITLE: Synthesis of substituted mandelic acid derivatives via enantioselective hydrogenation: Homogeneous versus heterogeneous catalysis

AUTHOR(S): Cederbaum, Fredrik; Lamberth, Clemens; Malan, Christophe; Naud, Fred; Spindler, Felix; Studer, Martin; Blaser, Hans-Ulrich

CORPORATE SOURCE: Research Department, Syngenta Crop Protection AG, Basel, 4002, Switz.

SOURCE: Advanced Synthesis & Catalysis (2004), 346(7), 842-848
CODEN: ASCAF7; ISSN: 1615-4150

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 142:176516

AB An extensive screening of both homogeneous and heterogeneous catalysts was carried out for the enantioselective hydrogenation of p-chlorophenylglyoxylic acid derivs. For p-chlorophenylglyoxylic amides only homogeneous Rh-diphosphine complexes gave satisfactory results, ees up to 87% were observed for the cy-oxo-pronop ligand. For Me p-chlorophenylglyoxylate both a homogeneous as well as a heterogeneous

catalyst performed with ees >90%. A Pt catalyst modified with cinchona derivs. achieved 93% ee for the (R)- and 87% ee for the (S)-Me p-chloromandelate. A Ru-MeObiphep catalyst also reached 93% ee with TONs up to 4000 and TOFs up to 210 h⁻¹. For all catalytic systems the effects of the metal, the nature of the chiral auxiliary and the solvent as well as of the reaction conditions were investigated. The homogeneous process was scaled up to the kg scale and the enantiomeric purity of the product was enhanced to >99% ee by two recrystns. of the free p-chlorophenylmandelic acid.

IT 133545-25-2 150971-43-0 150971-55-4

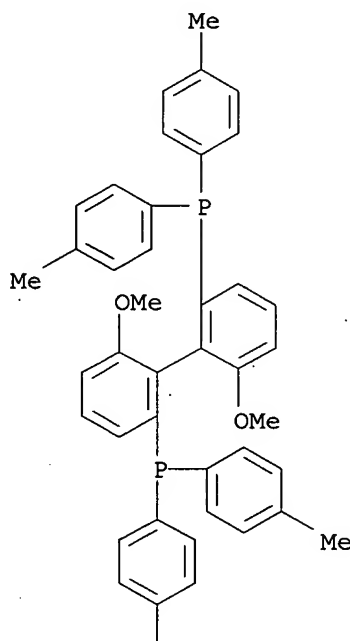
RL: CAT (Catalyst use); USES (Uses)

(homogeneous vs. heterogeneous catalysis in the synthesis of substituted mandelic acid derivs. via enantioselective hydrogenation)

RN 133545-25-2 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]

PAGE 1-A

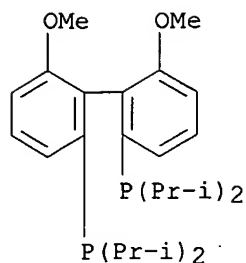


PAGE 2-A

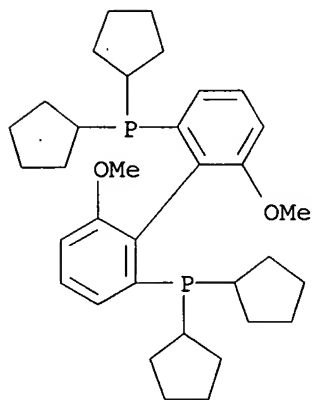


RN 150971-43-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)]



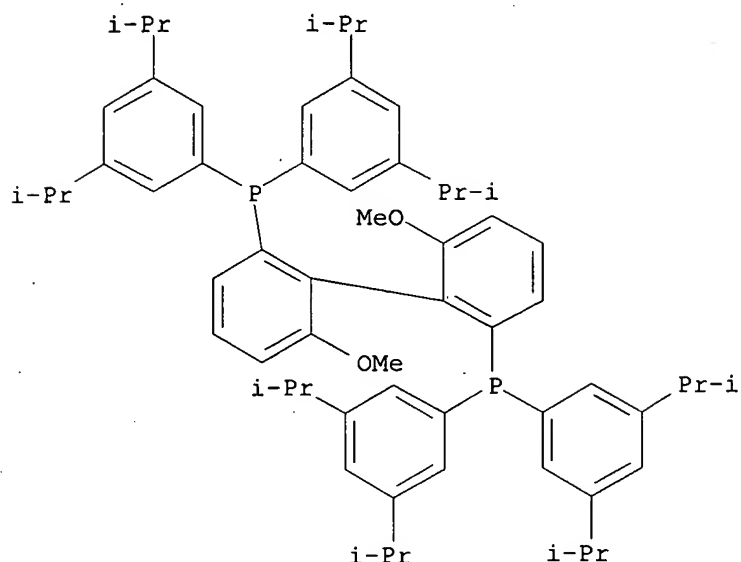
RN 150971-55-4 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclopentyl-
 (9CI) (CA INDEX NAME)



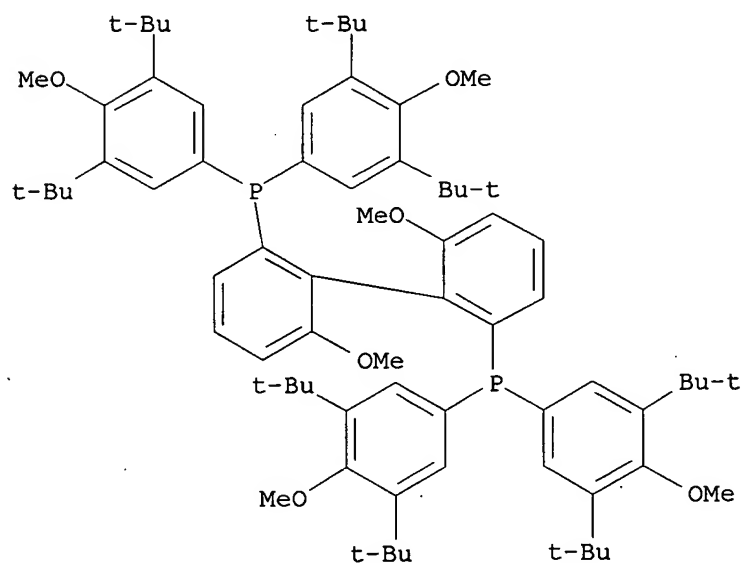
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 81 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:587635 CAPLUS
 DOCUMENT NUMBER: 142:155762
 TITLE: Platinum-catalyzed intramolecular alkylation of
 indoles with unactivated olefins. [Erratum to document
 cited in CA140:375039]
 AUTHOR(S): Liu, Cong; Han, Xiaoqing; Wang, Xiang; Widenhoefer,
 Ross A.
 CORPORATE SOURCE: P. M. Gross Chemical Laboratory, Duke University,
 Durham, NC, 27708-0346, USA
 SOURCE: Journal of the American Chemical Society (2004),
 126(33), 10493
 CODEN: JACSAT; ISSN: 0002-7863
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB On page 3701, the enantiomeric purity of compound 8 formed in the
 cyclization of compound 7 catalyzed by a 1:1 mixture of (R)-6 and AgOTf was
 reported incorrectly as 69% ee. The correct value is 87% ee. Reference 9
 should include the following citation: "Youn, S. W.; Pastine, S. J.;
 Sames, D. Organic Lett. 2004, 6, 581". On page S28, Supporting Information,
 the enantiomeric purity of compound 8 was reported incorrectly in entries
 2-5. The correct values are 21, 41, 63, and 87% ee, resp.
 IT 256390-45-1
 RL: CAT (Catalyst use); USES (Uses)
 (platinum-catalyzed intramol. alkylation of indoles with unactivated
 olefins (Erratum))

RN 256390-45-1 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



IT 352655-61-9
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (platinum-catalyzed intramol. alkylation of indoles with unactivated olefins (Erratum))
 RN 352655-61-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)



L3 ANSWER 82 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:570037 CAPLUS

DOCUMENT NUMBER: 141:123759
 TITLE: Catalytic asymmetric reductive amination of ketones
 via transition metal complex catalysts with chiral
 phosphine ligands
 INVENTOR(S): Zhang, Xumu
 PATENT ASSIGNEE(S): Penn State Research Foundation, USA
 SOURCE: PCT Int. Appl., 22 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004058982	A2	20040715	WO 2003-US34955	20031105
WO 2004058982	A3	20041229		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003294243	A1	20040722	AU 2003-294243	20031105
US 2004147762	A1	20040729	US 2003-701081	20031105
PRIORITY APPLN. INFO.:			US 2002-424663P	P 20021106
			WO 2003-US34955	W 20031105
OTHER SOURCE(S):			CASREACT 141:123759	
GI				

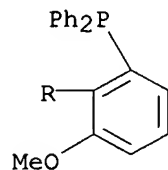
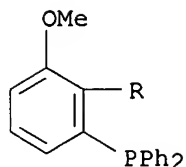
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Processes for the preparation of compds., e. g. I, having a chiral carbon substituted with an amine are disclosed. The processes include admixing a ketone, e. g. II, with an amine, e. g. III in the presence of a catalyst having a chiral phosphine ligand, e. g. IV, and an acid. The admixt. can also contain a reducing additive. The admixt. is then exposed to hydrogen to directly and asym. aminate the ketone.

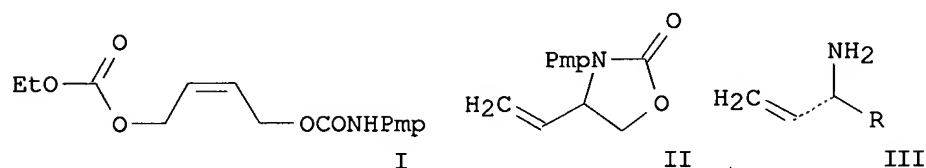
IT 133545-17-2
 RL: CAT (Catalyst use); USES (Uses)
 (catalytic asym. reductive amination of ketones via transition metal complex catalysts with chiral phosphine ligands)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



L3 ANSWER 83 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:553530 CAPLUS
 DOCUMENT NUMBER: 141:243792
 TITLE: Following an ISES Lead: The First Examples of
 Asymmetric Ni(0)-Mediated Allylic Amination
 AUTHOR(S): Berkowitz, David B.; Maiti, Gourhari
 CORPORATE SOURCE: Department of Chemistry, University of Nebraska,
 Lincoln, NE, 68588-0304, USA
 SOURCE: Organic Letters (2004), 6(16), 2661-2664
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 141:243792
 GI

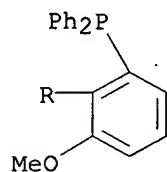
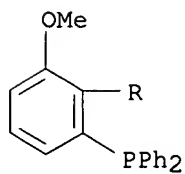


AB In order to develop an in-situ enzyme screening (ISES) method, the authors chose an intramol. allylic amination as a model reaction. For example, protected butene diol derivative I (Pmp = C₆H₄OMe-4) underwent allylic amination to afford oxazolidinone II (protected vinylglycinol derivative) in presence of Ni(cod)₂ catalyst with chiral bidentate phosphines as ligands. The chirality of the bidentate phosphines determined the stereochem. outcome of II. The best case was seen with (R)-MeO-BIPHEP as the ligand, where (S)-II was obtained in 75% enantiomeric excess from I. (S)-II was converted in three steps to L-vinylglycinol, III (R = CH₂OH), which was converted in two steps to L-vinylglycine, III (R = CO₂H).

IT 133545-16-1, (R)-MeO-BIPHEP 256390-45-1,
 (R)-3, '5'-i-Pr₂-MeO-BIPHEP 352655-61-9, (R)-4'-OMe-3',5'-t-Bu₂-
 MeO-BIPHEP 394248-45-4, (R)-3',5'-Me₂-MeO-BIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (ligand; asym. allylic amination of butenediol derivative using nickel catalyst with chiral bidentate phosphine ligands as a model reaction for in-situ enzyme screening).

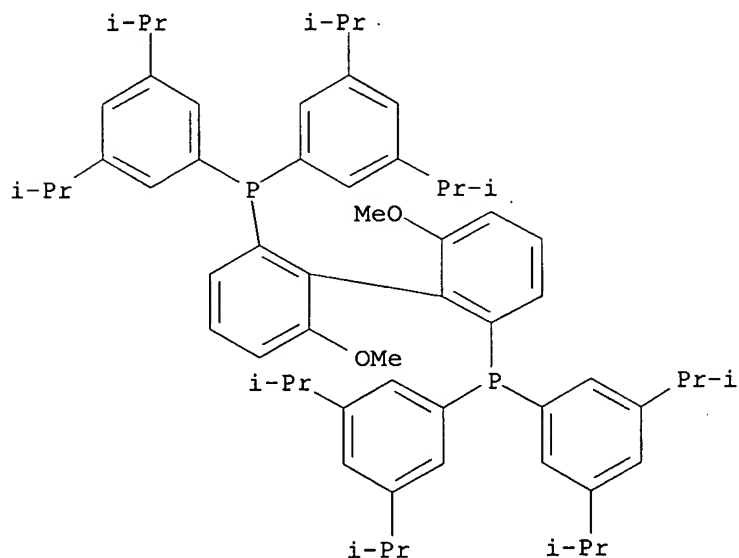
RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-

diphenyl- (CA INDEX NAME)



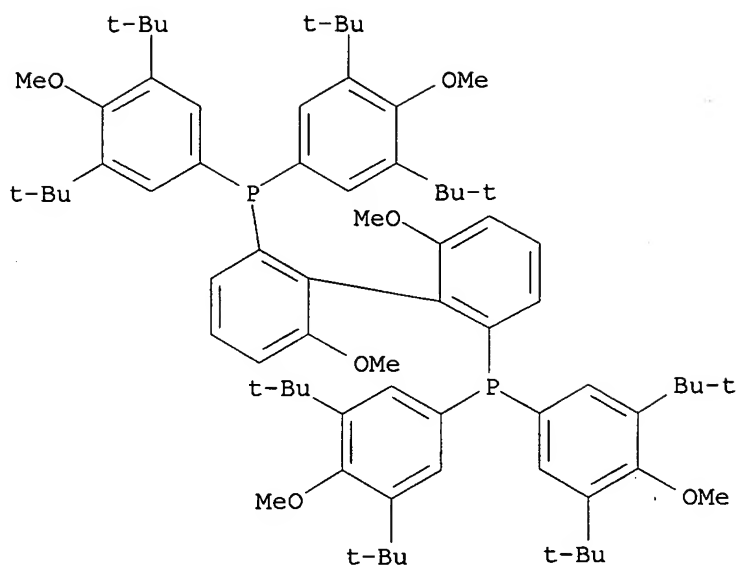
RN 256390-45-1 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

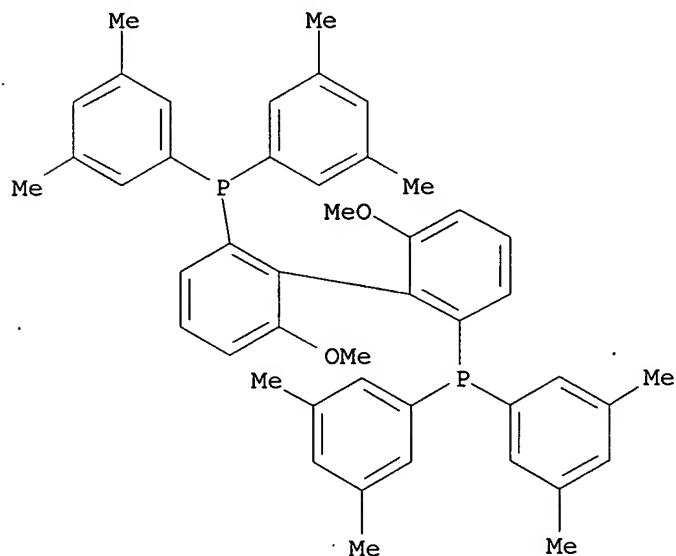


RN 352655-61-9 CAPLUS

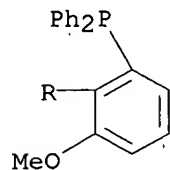
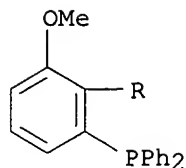
CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)



RN 394248-45-4 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)]

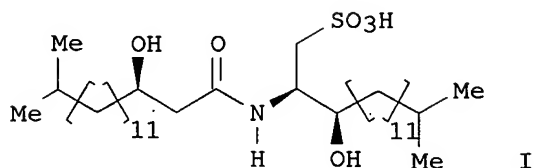


IT 133545-17-2
 RL: CAT (Catalyst use); USES (Uses)
 (ligand; preparation of vinylglycinol derivs. from asym. allylic amination
 of butenediol derivative with nickel catalyst and chiral bidentate
 phosphine ligands)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 84 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:498533 CAPLUS
 DOCUMENT NUMBER: 141:173999
 TITLE: Total synthesis of sulfobacin A through dynamic kinetic resolution of a racemic β -keto- α -amino ester hydrochloride
 AUTHOR(S): Labeeuw, Olivier; Phansavath, Phannarath; Genet, Jean-Pierre
 CORPORATE SOURCE: UMR CNRS 7573, Laboratoire de Synthese Selective Organique et Produits Naturels, Ecole Nationale Supérieure de Chimie de Paris, Paris, 75231, Fr.
 SOURCE: Tetrahedron: Asymmetry (2004), 15(12), 1899-1908
 CODEN: TASYE3; ISSN: 0957-4166
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 141:173999
 GI



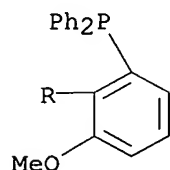
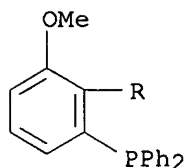
AB A total synthesis of sulfobacin A (I), a von Willebrand factor receptor antagonist. (no data), is described. Our synthetic approach relies uniquely on catalytic asym. reactions for the creation of the three stereogenic centers without using chiral building blocks. The key steps of this short route to sulfobacin A involve ruthenium-mediated asym. hydrogenation reactions of a β -keto ester and a racemic β -keto- α -amino ester hydrochloride to afford, resp., the corresponding enantiomerically pure β -hydroxy ester and the enantioenriched anti β -hydroxy α -amino ester hydrochloride through dynamic kinetic resolution

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(total synthesis of sulfobacin A through dynamic kinetic resolution of a racemic β -keto- α -amino ester hydrochloride)

RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl]- (CA INDEX NAME)



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 85 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:491164 CAPLUS

DOCUMENT NUMBER: 142:179196

TITLE: Industrial application of chiral biphosphines

AUTHOR(S): Gerlach, Arne; Scholz, Ulrich

CORPORATE SOURCE: Bayer Chemicals, Leverkusen, D-51368, Germany

SOURCE: Speciality Chemicals Magazine (2004), 24(4), 37-38

CODEN: SPCHEY; ISSN: 0262-2262

PUBLISHER: DMG World Media (uk) Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 142:179196

AB Bayer Chems.' ClMeOBIPHEP ligand ((S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)-2,2'-dimethoxy-1,1'-biphenyl) is a popular member of the BINAP family that exhibits strong asym. induction in many applications. Since its early developments in Bayer's central research department, numerous applications of the ClMeOBIPHEP ligand class have been identified in asym. hydrogenation. Among the most interesting substrates from an industrial point of view are those which contain prochiral C:O or C:C double bonds. With ClMeOBIPHEP-Ru catalysts, a simple crystallization protocol that allowed further enrichment to up to 99% ee for the ammonium salt was developed; thus (E)-CF₃CMe:CHCO₂H was hydrogenated to (R)-CF₃CHMeCH₂CO₂H, which was neutralized by tBuNH₂ to (R)-tBuNH₃O₂CCH₂CHMeCF₃ for purification by recrystn. In another application, acetylacetone was hydrogenated to (S,S)-2,4-pentanediol (>99 %ee and >98 %de) in a simple procedure even at the kg scale.

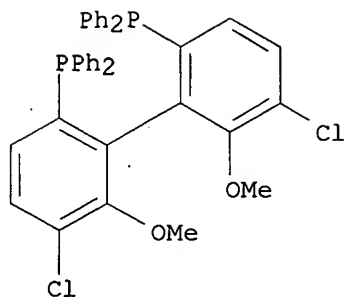
IT 185913-98-8D, ruthenium complexes

RL: CAT (Catalyst use); USES (Uses)

(industrial catalytic applications of chiral biphosphines in asym. hydrogenation)

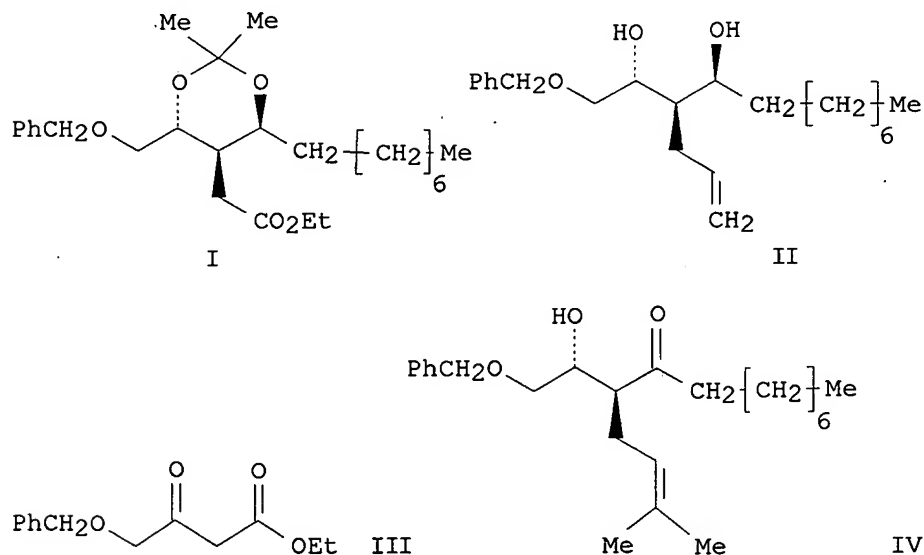
RN 185913-98-8 CAPLUS

CN Phosphine, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

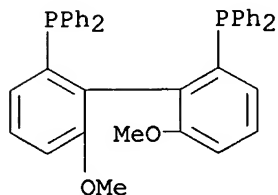
L3 ANSWER 86 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:484214 CAPLUS
 DOCUMENT NUMBER: 141:173996
 TITLE: An efficient ruthenium-catalyzed formal synthesis of (-)-isoavenaciolide
 AUTHOR(S): Labeeuw, Olivier; Blanc, Delphine; Phansavath, Phannarath; Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre
 CORPORATE SOURCE: Laboratoire de Synthèse Selective Organique et Produits Naturels, UMR 7573, Ecole Nationale Supérieure de Chimie de Paris, Paris, 75231/05, Fr.
 SOURCE: European Journal of Organic Chemistry (2004), (11), 2352-2358
 CODEN: EJOCFK; ISSN: 1434-193X
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 141:173996
 GI



AB A formal synthesis of (-)-isoavenaciolide by two different routes is reported. The first approach, leading to a key precursor I of (-)-isoavenaciolide, features the stereoselective construction of the three contiguous stereogenic centers by Evans diastereoselective reduction

(d.e. = 80%) of β -hydroxy ketone II. In the more efficient second approach, the nine-step sequence leading to the key precursor I involves sequential ruthenium-catalyzed hydrogenation reactions of β -keto ester III and β -hydroxy ketone IV to form the two hydroxyl groups with an excellent control of the anti stereochem. (d.e. = 99%).

IT 133577-92-1, 6,6'-Dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine
RL: CAT (Catalyst use); USES (Uses)
(efficient ruthenium-catalyzed formal synthesis of (-)-isoavenaciolide)
RN 133577-92-1 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
(CA INDEX NAME)



REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 87 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:356395 CAPLUS

DOCUMENT NUMBER: 141:88901

TITLE: Remarkably diastereoselective synthesis of a chiral biphenyl diphosphine ligand and its application in asymmetric hydrogenation

AUTHOR(S): Qiu, Liqin; Wu, Jing; Chan, Shusun; Au-Yeung, Terry T.-L.; Ji, Jian-Xin; Guo, Rongwei; Pai, Cheng-Chao; Zhou, Zhongyuan; Li, Xingshu; Fan, Qing-Hua; Chan, Albert S. C.

CORPORATE SOURCE: Open Laboratory of Chirrotechnology of the Institute of Molecular Technology for Drug Discovery and Synthesis and Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University, Kowloon, Hong Kong

SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2004), 101(16), 5815-5820
CODEN: PNASA6; ISSN: 0027-8424

PUBLISHER: National Academy of Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:88901

AB Essentially complete atropdiastereoselectivity was realized in the preparation of biaryl diphosphine dioxide by asym. intramol. Ullmann coupling and oxidative coupling with central-to-axial chirality transfer. A bridged C2-sym. biphenylphosphine ligand possessing addnl. chiral centers on the linking unit of the biphenyl groups was synthesized. No resolution step was required for the preparation of the enantiomerically pure chiral ligand. These findings offer a general and practical tool for the development of previously uninvestigated atropdiastereomeric biaryl phosphine ligands. The diphosphine ligand was highly effective in the asym. hydrogenation of α - and β -keto esters, 2-(6'-methoxy-2'-naphthyl)propenoic acid, β -(acylamino)acrylates, and enol acetates.

IT 133545-17-2D, ruthenium chloride and p-cymene complexes

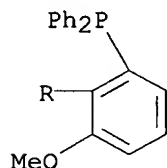
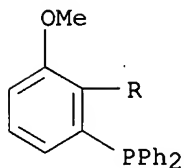
RL: CAT (Catalyst use); USES (Uses)

(stereoselective synthesis of a chiral biphenyl diphosphine ligand for

asym. hydrogenation)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 88 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:356392 CAPLUS

DOCUMENT NUMBER: 141:71622

TITLE: Chiral biphenyl diphosphines for asymmetric catalysis: stereoelectronic design and industrial perspectives

AUTHOR(S): Jeulin, Severine; De Paule, Sebastien Duprat; Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre; Champion, Nicolas; Dellis, Philippe

CORPORATE SOURCE: Laboratoire de Synthese Selective Organique et Produits Naturels, Ecole Nationale Supérieure de Chimie de Paris, Paris, 75231, Fr.

SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2004), 101(16), 5799-5804
CODEN: PNASA6; ISSN: 0027-8424

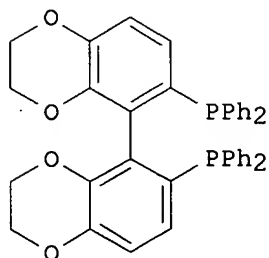
PUBLISHER: National Academy of Sciences

DOCUMENT TYPE: Journal

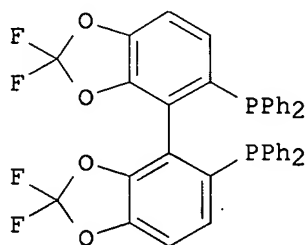
LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:71622

GI



I



II

AB Both enantiomers of the chiral diphosphines I (SYNPHOS) and II (DIFLUORPHOS) are prepared on multigram scales; the electronic and steric characteristics of I and II and of rhodium complexes derived from them are determined, compared with previous diphosphine catalysts, and correlated with

their activities and enantioselectivities in the hydrogenation of ketones and olefins. I and II are prepared in five steps from 6-bromo-2,3-dihydro-1,4-benzodioxane and 5-bromo-2,2-difluorobenzodioxole, resp.; lithium-metal exchange and addition to a phosphoryl or phosphinyl chloride followed by oxidation to yield phosphine oxides, regioselective lithiation and iodination, Ullman coupling of the aryl iodides, resolution (either by acid-base resolution with di-O-benzoyl-tartaric acid or by chiral HPLC), and reduction of the phosphine oxides yields I and II in 38% and 33% overall yield, resp. The bite angles of I and II are compared to those of other common diphosphine ligands such as BINAP and MeO-BIPHEP. The structure of diastereomeric chlorohydridoruthenium complexes of (S)-II with Me acetoacetate is determined. The C-O stretching frequencies of chloro(carbonyl)rhodium diphosphine complexes containing I, II, BINAP, and MeO-BIPHEP are determined as a measure of the electronic demands of the diphosphine ligands. β -Keto ester, α -keto ester, 1,3-diketone, ketone, and olefin substrates are hydrogenated in the presence of nonracemic I, II, BINAP, and MeO-BIPHEP and bis(η^3 -methallyl)(η^4 -1,5-cyclooctadienyl)ruthenium; the enantioselectivities are correlated with the steric and electronic properties of the ligands. The stereoelectronic features of the ligand and the substrate deeply influence the enantioselectivities obtained in asym. hydrogenation; whereas the steric and electronic factors for I (as in other diphosphines) correlate well, the bite angle of II does not correlate to its electronic effects in asym. hydrogenation reactions, leading to complementary hydrogenation selectivities for ligands I and II.

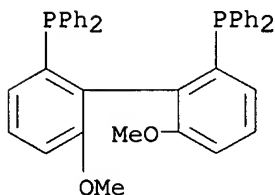
IT 133577-92-1, (\pm)-MeO-BIPHEP

RL: PRP (Properties)

(calculated bite angles as a measure of ligand steric effects and correlations between steric and electronic effects and enantioselectivities in ruthenium diphosphine complex-catalyzed asym. hydrogenation reactions)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
(CA INDEX NAME)



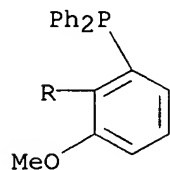
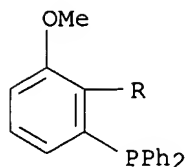
IT 133545-16-1, (R)-MeO-BIPHEP 133545-17-2, (S)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

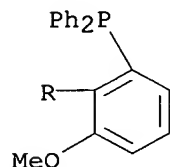
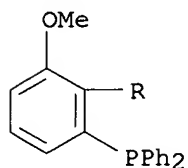
(preparation of nonracemic biaryl diphosphines as ligands for ruthenium-catalyzed asym. hydrogenation reactions, their steric and electronic properties, and comparisons with the selectivities of other biaryl diphosphine ligands)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl]- (CA INDEX NAME)



REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 89 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:308392 CAPLUS
 DOCUMENT NUMBER: 140:321522
 TITLE: Isomerization of chiral homogeneous o,o'-dihydroxybiphenyl derivatives
 INVENTOR(S): Arlt, Dieter
 PATENT ASSIGNEE(S): Germany
 SOURCE: PCT Int. Appl., 26 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004031110	A2	20040415	WO 2003-EP10764	20030927
WO 2004031110	A3	20040610		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,

PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,
 UG, US, UZ, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10324878 A1 20040422 DE 2003-10324878 20030602
 AU 2003273926 A1 20040423 AU 2003-273926 20030927
 PRIORITY APPLN. INFO.: DE 2002-10246137 A 20021001
 DE 2003-10324878 A 20030602
 WO 2003-EP10764 W 20030927

OTHER SOURCE(S): CASREACT 140:321522; MARPAT 140:321522

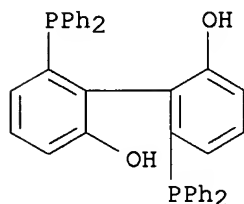
AB Chiral homogeneous o,o'-dihydroxybiphenyl derivs., which either act as
 bisphosphine ligands of enantioselective transition metal complex
 catalysts (no data), or are used as intermediate products for producing
 ligands of this type, can be isomerized by thermal treatment, optionally
 in the presence of substances with an alkaline action, to produce a mixture of
 both enantiomers. The inventive method permits the targeted production of a
 ligand for enantioselective transition metal complex catalysts in (R)- or
 (S)- form, enabling the undesired enantiomer to be used. Thus, reaction
 of (R)-(6,6'-dihydroxybiphenyl-2,2'-diyl)bis(diphenylphosphine) with BuLi
 in ethylene glycol/hexane followed by heating the solution at 160° for
 24h and HCl hydrolysis gave a mixture of (R)- and (S)-(6,6'-
 dihydroxybiphenyl-2,2'-diyl)bis(diphenylphosphine).

IT 151395-61-8 185913-98-8

RL: RCT (Reactant); RACT (Reactant or reagent)
 (isomerization of chiral homogeneous dihydroxybiphenyl phosphine
 derivs.)

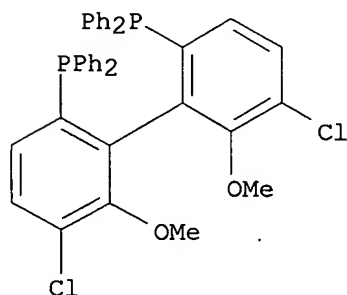
RN 151395-61-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX
 NAME)



RN 185913-98-8 CAPLUS

CN Phosphine, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
 diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



IT 151395-62-9P 185913-95-5P 524711-75-9P
 679422-50-5P 679422-51-6P 691363-03-8P

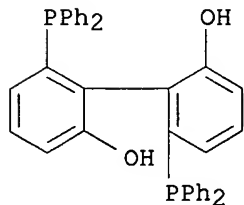
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)

(isomerization of chiral homogeneous dihydroxybiphenyl phosphine
derivs.)

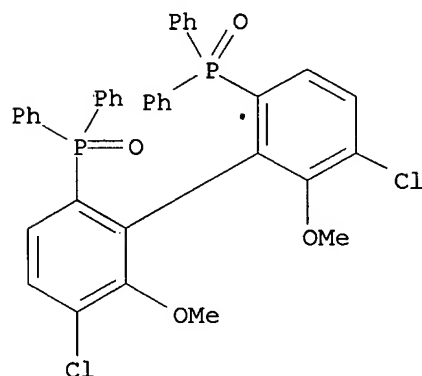
RN 151395-62-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA
INDEX NAME)



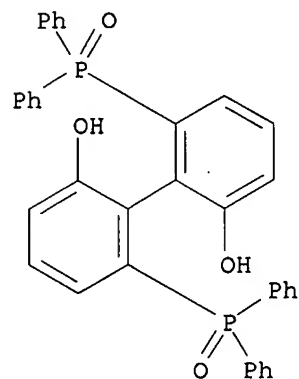
RN 185913-95-5 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



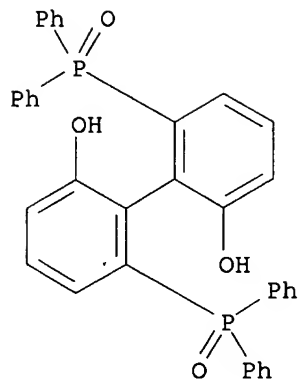
RN 524711-75-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA
INDEX NAME)

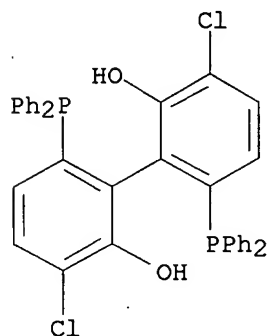


RN 679422-50-5 CAPLUS

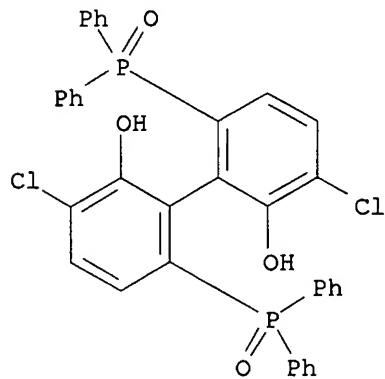
CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA
INDEX NAME)



RN 679422-51-6 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-bis(diphenylphosphino)-,
 (1S)- (9CI) (CA INDEX NAME)

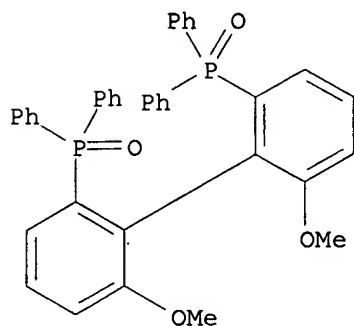


RN 691363-03-8 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-bis(diphenylphosphino)-,
 (1S)- (9CI) (CA INDEX NAME)



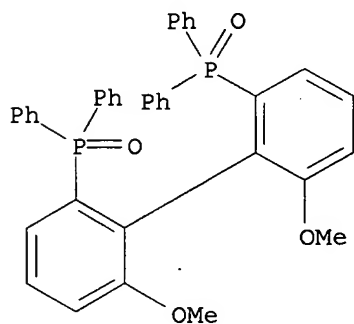
IT 133577-82-9P 133577-84-1P 185913-96-6P
 679002-66-5P 679002-67-6P 679002-68-7P
 679002-69-8P 688359-26-4P 691363-02-7P
 691363-04-9P 691363-06-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (isomerization of chiral homogeneous dihydroxybiphenyl phosphine
 derivs.)
 RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-,
(1R)- (9CI) (CA INDEX NAME)



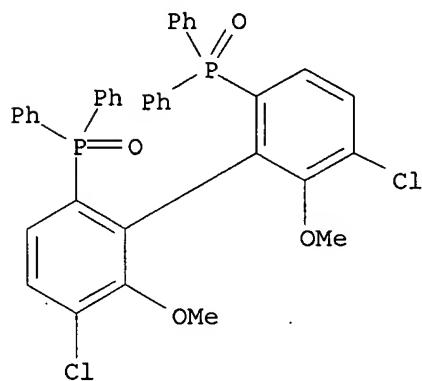
RN 133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



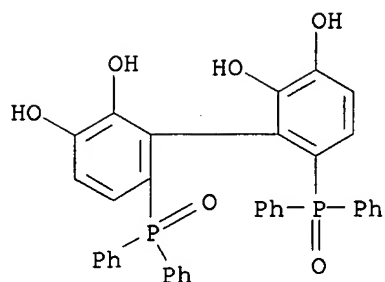
RN 185913-96-6 CAPLUS

CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



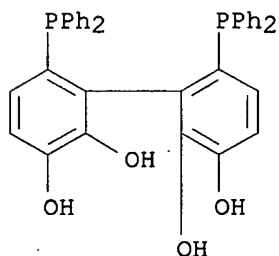
RN 679002-66-5 CAPLUS

CN [1,1'-Biphenyl]-2,2',3,3'-tetrol, 6,6'-bis(diphenylphosphinyl)- (9CI) (CA
INDEX NAME)



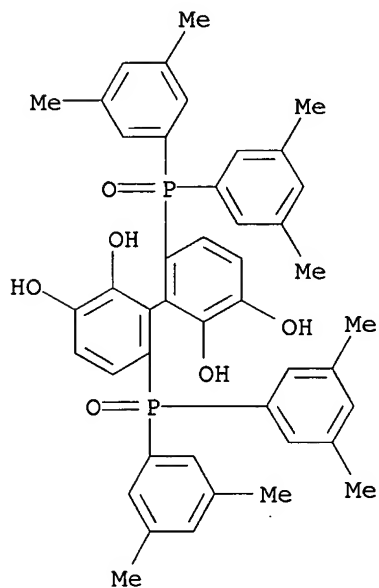
RN 679002-67-6 CAPLUS

CN [1,1'-Biphenyl]-2,2',3,3'-tetrol, 6,6'-bis(diphenylphosphino)- (9CI) (CA INDEX NAME)



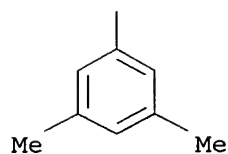
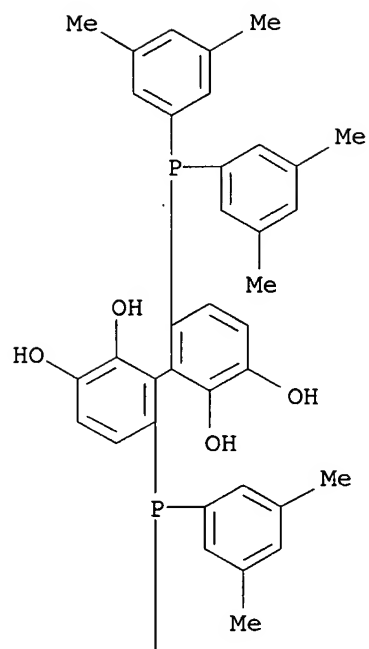
RN 679002-68-7 CAPLUS

CN [1,1'-Biphenyl]-2,2',3,3'-tetrol, 6,6'-bis[bis(3,5-dimethylphenyl)phosphino]- (9CI) (CA INDEX NAME)

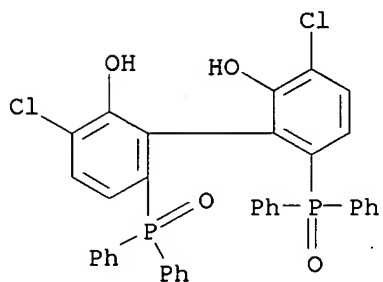


RN 679002-69-8 CAPLUS

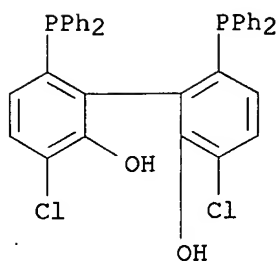
CN [1,1'-Biphenyl]-2,2',3,3'-tetrol, 6,6'-bis[bis(3,5-dimethylphenyl)phosphino]- (9CI) (CA INDEX NAME)



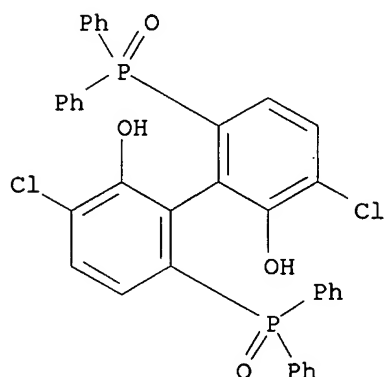
RN 688359-26-4 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphinyl)-
 (9CI) (CA INDEX NAME)



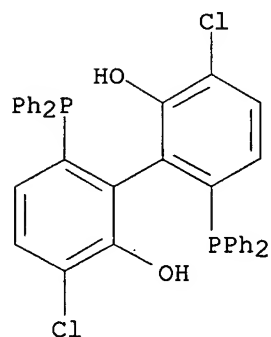
RN 691363-02-7 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphino)-
 (9CI) (CA INDEX NAME)



RN 691363-04-9 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphinyl)-,
 (1R)-(9CI) (CA INDEX NAME)



RN 691363-06-1 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphino)-,
 (1R)-(9CI) (CA INDEX NAME)



L3 ANSWER 90 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:304108 CAPLUS
 DOCUMENT NUMBER: 141:89150
 TITLE: Synthesis, resolution and applications of
 3,3'-bis(RO)-MeO-BIPHEP derivatives
 AUTHOR(S): Gorobets, Evgueni; Sun, Guang-Ri; Wheatley, Bronwen M.
 M.; Parvez, Masood; Keay, Brian A.
 CORPORATE SOURCE: Department of Chemistry, University of Calgary,
 Calgary, Alta, T2N 1N4, Can.
 SOURCE: Tetrahedron Letters (2004), 45(18), 3597-3601
 CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:89150

AB Optically pure 3,3'-bis(RO)-MeO-BIPHEP derivs. were prepared and used in Pd catalyzed asym. transformations. The phosphine oxide of BIPHEP derivative (\pm)-5 was prepared in four steps from p-methoxyphenol and resolved using the novel resolving reagent chloro(1-menthoxy)dimethylsilane. Subsequent conversions provide catalysts 8 and 9. Ligands 6, 7 and 10 were prepared in six steps from p-methoxyphenol and the phosphine oxides of 6 and 7, and 10 are resolved using di-p-toluoyl- and dibenzoyl-l-tartaric acid, resp. (R)-3,3'-Bispivalate 8 is superior to the other catalysts in asym. Heck reaction with 2,3-dihydrofuran while (R)-(+)-bis(tolyloxy) 10 and (+)-(R)-sugar derivative 9 are better in the Pd-catalyzed polyene cyclization; however, the absolute sense of chirality in the product from the polyene cyclization was reversed to that obtained when (R)-(+)-BINAP and (R)-(+)-MeO-BIPHEP were used.

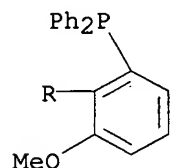
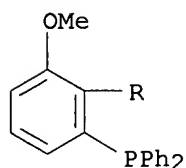
IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(Pd-catalyzed asym. Heck arylation of dihydrofuran using chiral dimethoxybiphenyldiylbisphosphine BIPHEP ligands)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 91 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:304084 CAPLUS

DOCUMENT NUMBER: 141:38723

TITLE: 3,5-Dialkyl Effect on Enantioselectivity in Pd Chemistry: Applications Involving Both Bidentate and Monodentate Auxiliaries

AUTHOR(S): Dotta, Pascal; Kumar, P. G. Anil; Pregosin, Paul S.; Albinati, Alberto; Rizzato, Silvia

CORPORATE SOURCE: Laboratory of Inorganic Chemistry, ETHZ, Zurich, 8093, Switz.

SOURCE: Organometallics (2004), 23(10), 2295-2304

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

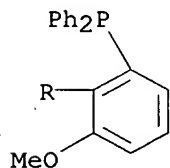
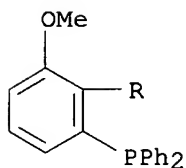
LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:38723

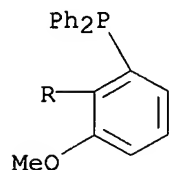
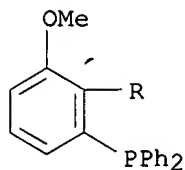
AB The structural effect of phosphine 3,5-dialkylphenyl groups on

enantioselectivity of palladium-catalyzed reactions is demonstrated for a ring-opening transmetalation, Heck arylation, allylic alkylation and hydrosilylation reactions. The presence of tBu groups in 3,5-positions of Ph ring of PAr₂-containing axial-chiral di- and monophosphines improves the enantioselectivity by more than 15%. The ligands tested include MeO-Biphep and a P,N-binaphthyl(phosphino-oxazoline) bidentate ligand containing 3,5-di-tert-butylphenyl substituents. Further, several derivs. of the monodentate auxiliary MOP ((R)-2-diarylphosphino-1,1'-binaphthyl) were modified to include 3,5-dialkylphenyl substituents and these auxiliaries were tested in Pd-catalyzed enantioselective hydrosilylation chemical For some of these modified MOP ligands the enantioselectivity increased by 40-50%. Variable-temperature and 2-D NMR studies were carried out on new model complexes and reveal selected restricted rotation around a number of the P-C(ipso) aryl bonds. Solid-state structures for two of the new complexes were determined

IT 133545-16-1, (R)-MeO-Biphep
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (complexation; preparation and asym. catalytic properties of palladium complexes with mono- and bidentate axial-chiral phosphines modified with bulky alkyl substituents)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]

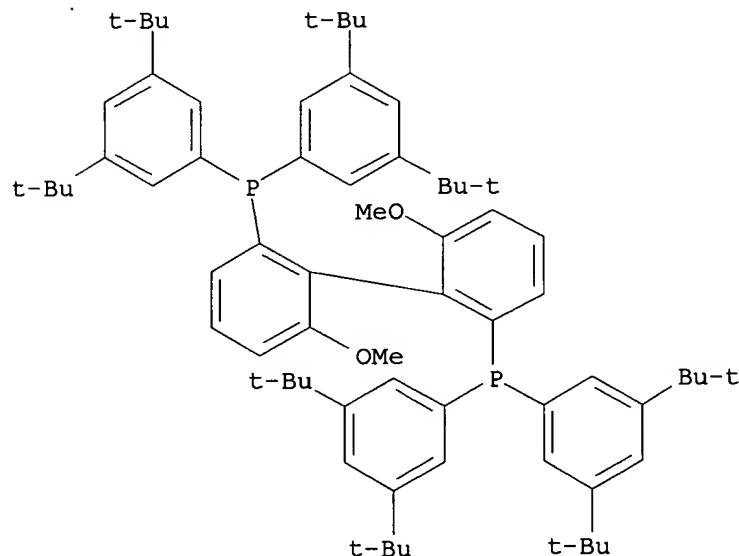


IT 133545-17-2, (S)-MeO-Biphep
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation and asym. catalytic properties of palladium complexes with mono- and bidentate axial-chiral phosphines modified with bulky alkyl substituents)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



IT 192138-05-9
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES
 (Uses)
 (ring opening alkylation cocatalyst; preparation and asym. catalytic
 properties of palladium complexes with mono- and bidentate axial-chiral
 phosphines modified with bulky alkyl substituents)

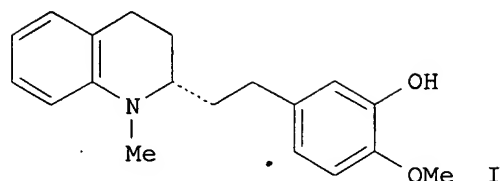
RN 192138-05-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-
 bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 92 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:270951 CAPLUS
 DOCUMENT NUMBER: 141:7314
 TITLE: The enantioselective total synthesis of alkaloid
 (-)-galipeine
 AUTHOR(S): Yang, Peng-Yu; Zhou, Yong-Gui
 CORPORATE SOURCE: Dalian Institute of Chemical Physics, The Chinese
 Academy of Sciences, Dalian, 116023, Peop. Rep. China
 SOURCE: Tetrahedron: Asymmetry (2004), 15(7), 1145-1149
 CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 141:7314
 GI



AB The first total synthesis of (-)-galipeine (I) was accomplished in seven steps with 54% overall yield from isovanillin based on Ir-catalyzed asym. hydrogenation of a quinoline derivative as a key step. The absolute stereochem.

was established by analogy.

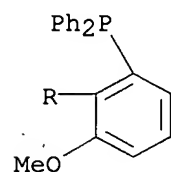
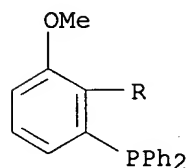
IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(enantioselective total synthesis of alkaloid (-)-galipeine)

RN 133545-17-2 CAPLUS

CN Phosphine, 1;1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 93 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:231674 CAPLUS

DOCUMENT NUMBER: 140:423405

TITLE: Asymmetric 1,4-Reductions of Hindered
 β -Substituted Cycloalkenones Using Catalytic
 SEGPHOS-Ligated CuH

AUTHOR(S): Lipshutz, Bruce H.; Servesko, Jeff M.; Petersen, Tue B.; Papa, Patrick P.; Lover, Andrew A.

CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of California, Santa Barbara, CA, 93106, USA

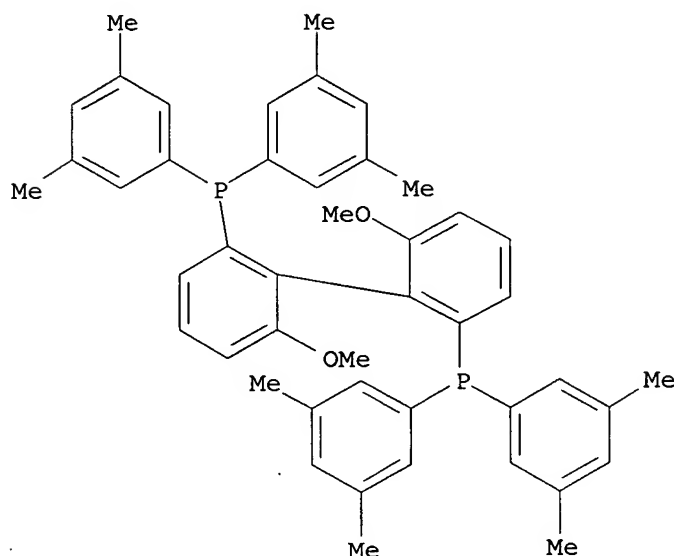
SOURCE: Organic Letters (2004), 6(8), 1273-1275

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

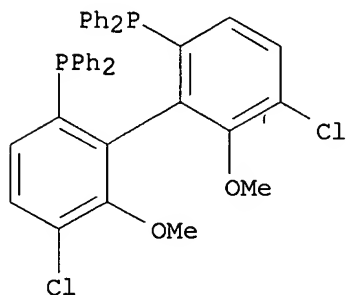
LANGUAGE: English
 OTHER SOURCE(S): CASREACT 140:423405
 AB The reagent combination of catalytic amts. of copper hydride ligated by a nonracemic SEGPHOS ligand leads in situ to an extremely reactive species capable of effecting asym. hydrosilylations of conjugated cyclic enones in very high ees. An unprecedented substrate-to-ligand ratio as high as 275 000:1 for this transformation has been documented.
 IT 394248-45-4, (R)-Xylo-MeO-BIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (asym. 1,4-redns. of hindered β -substituted cycloalkenones using catalytic SEGPHOS-ligated CuH)
 RN 394248-45-4 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)]



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

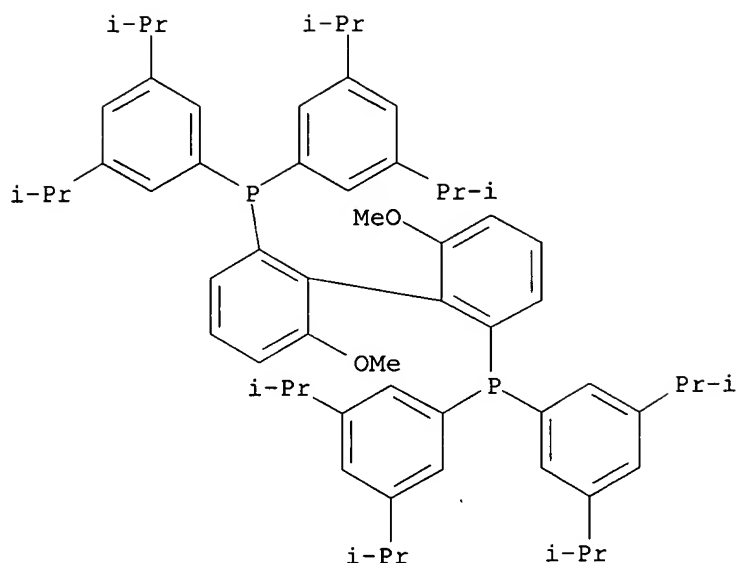
L3 ANSWER 94 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:208001 CAPLUS
 DOCUMENT NUMBER: 140:390937
 TITLE: Phosphine-Catalyzed Regiospecific Allylic Amination and Dynamic Kinetic Resolution of Morita-Baylis-Hillman Acetates
 AUTHOR(S): Cho, Chang-Woo; Kong, Jong-Rock; Krische, Michael J.
 CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of Texas at Austin, Austin, TX, 78712, USA
 SOURCE: Organic Letters (2004), 6(8), 1337-1339
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 140:390937
 AB Exposure of Morita-Baylis-Hillman (MBH) acetates to tertiary phosphine catalysts in the presence of 4,5-dichlorophthalimide enables regiospecific allylic substitution through a tandem SN2'-SN2' mechanism. Through the use of the chiral phosphine catalyst (R)-Cl-MeO-BIPHEP, chiral racemic MBH acetate 4 is converted to the corresponding allylic amination product in 80% yield and 56% enantiomeric excess, thus establishing the feasibility

of dynamic kinetic resolution
 IT 185913-97-7
 RL: CAT (Catalyst use); USES (Uses)
 (phosphine-catalyzed regiospecific allylic amination and dynamic
 kinetic resolution of Morita-Baylis-Hillman acetates)
 RN 185913-97-7 CAPLUS
 CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
 diyl]bis[diphenyl]- (9CI) (CA INDEX NAME)

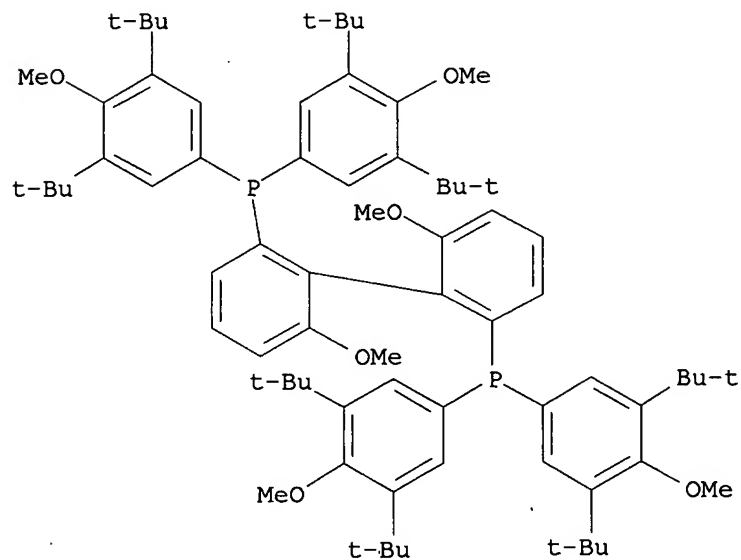


REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 95 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:178968 CAPLUS
 DOCUMENT NUMBER: 140:375039
 TITLE: Platinum-Catalyzed Intramolecular Alkylation of
 Indoles with Unactivated Olefins
 AUTHOR(S): Liu, Cong; Han, Xiaoqing; Wang, Xiang; Widenhoefer,
 Ross A.
 CORPORATE SOURCE: P. M. Gross Chemical Laboratory, Duke University,
 Durham, NC, 27708-0346, USA
 SOURCE: Journal of the American Chemical Society (2004),
 126(12), 3700-3701
 CODEN: JACSAT; ISSN: 0002-7863
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 140:375039
 AB Reaction of 1-methyl-2-(4-pentenyl)indole with a catalytic amount of PtCl₂
 (2 mol %) in dioxane that contained a trace of HCl (5 mol %) at 60
 °C for 24 h led to the isolation of 4,9-dimethyl-2,3,4,9-tetrahydro-
 1H-carbazole in 92% yield. Platinum-catalyzed cyclization of
 2-(4-pentenyl)indoles tolerated substitution at each position of the
 4-pentenyl chain. Furthermore, the protocol was applicable to the
 synthesis of tetrahydro-β-carbolinones and was effective for
 cyclization of unprotected indoles. 2-(3-Butenyl)indoles underwent
 platinum-catalyzed cyclization with exclusive 6-endo-trig
 regioselectivity. Mechanistic studies established a mechanism for the
 platinum-catalyzed cyclization of 2-alkenyl indoles involving nucleophilic
 attack of the indole on a platinum-complexed olefin.
 IT 256390-45-1
 RL: CAT (Catalyst use); USES (Uses)
 (platinum-catalyzed intramol. alkylation of indoles with unactivated
 olefins)
 RN 256390-45-1 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-
 methylethyl)phenyl]- (9CI) (CA INDEX NAME)



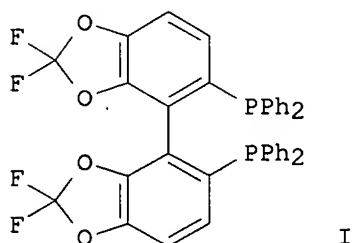
IT 352655-61-9
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (platinum-catalyzed intramol. alkylation of indoles with unactivated olefins)
 RN 352655-61-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 96 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:70307 CAPLUS
 DOCUMENT NUMBER: 140:253116
 TITLE: Difluorphos, an electron-poor diphosphane: A good match between electronic and steric features

AUTHOR(S): Jeulin, Severine; Duprat de Paule, Sebastien;
 Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre;
 Champion, Nicolas; Dellis, Philippe
 CORPORATE SOURCE: Laboratoire de Synthese Selective Organique et
 Produits Naturels, Ecole Nationale Supérieure de
 Chimie de Paris, Paris, 75231, Fr.
 SOURCE: Angewandte Chemie, International Edition (2004),
 43(3), 320-325
 CODEN: ACIEF5; ISSN: 1433-7851
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 140:253116
 GI



AB Both enantiomers of difluorophos I were synthesized and their stereoelectronic features were evaluated in theor. and exptl. studies. The unusual π acidity of I explains the excellent results obtained with it in ruthenium-mediated asym. hydrogenation of fluorinated β -functionalized ketones. These results are better than those obtained with other biphenyl-based diphosphines.

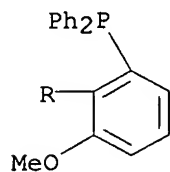
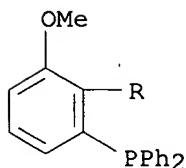
IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of β -functionalized alcs. by Ru-catalyzed hydrogenation of β -keto esters and β -diketones using chiral diphosphines as ligands)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



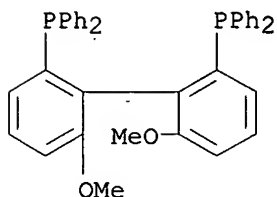
IT 133577-92-1

RL: PRP (Properties)

(calcns. of dihedral angle of atropisomeric diphosphines)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
(CA INDEX NAME)



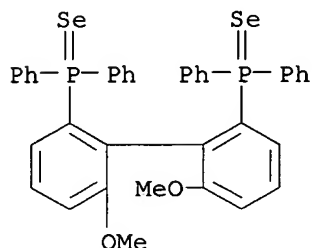
IT 669713-28-4

RL: PRP (Properties)

(coupling consts. and 31P NMR data of atropisomeric diphosphine diselenides)

RN 669713-28-4 CAPLUS

CN Phosphine selenide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

50

THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 97 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:915316 CAPLUS

DOCUMENT NUMBER: 140:111391

TITLE: Stereoselective synthesis of diltiazem via dynamic kinetic resolution

AUTHOR(S): Mordant, Celine; Cano de Andrade, Cristina; Touati, Ridha; Ratovelomanana-Vidal, Virginie; Ben Hassine, Bechir; Genet, Jean-Pierre

CORPORATE SOURCE: Laboratoire de Synthese Selective Organique et Produits Naturels, UMR 7573 C.N.R.S., Ecole Nationale Supérieure de Chimie de Paris, Paris, 75231/05, Fr.

SOURCE: Synthesis (2003), (15), 2405-2409

CODEN: SYNTBF; ISSN: 0039-7881

PUBLISHER: Georg Thieme Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:111391

AB An efficient synthesis of diltiazem has been developed using dynamic kinetic resolution (DKR) as a key step. Me (2S,3S)-2-chloro-3-hydroxy-3-(4-methoxyphenyl)propionate was synthesized from a racemic mixture of α -chloro- β -keto ester, with high anti-diastereoselectivity (92%) and enantioselectivity (95%), based on an asym. hydrogenation reaction with a chiral ruthenium(II) catalyst, simply prepared by mixing [(1,2,5,6- η)-1,5-cyclooctadiene]bis[(1,2,3- η)-2-methyl-2-

propenyl]ruthenium with the atropisomeric ligand [(1S)-6,6'-Dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenylphosphine]. By treatment of (+)-(αS,βS)-α-chloro-β-hydroxy-4-methoxybenzenepropanoic acid Me ester with a base, the corresponding Me trans-glycidate [i.e., (-)-(2R,3S)-3-(4-methoxyphenyl)oxiranecarboxylic acid Me ester], a key intermediate of diltiazem, was easily obtained.

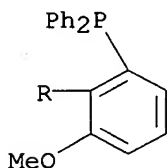
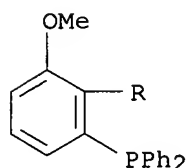
IT 133545-17-2, (S)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(enantioselective synthesis of (+)-cis-diltiazem using dynamic kinetic resolution in the stereoselective and enantioselective hydrogenation of an α-chloro-β-keto ester as the key step)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 98 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:877267 CAPLUS

DOCUMENT NUMBER: 140:128379

TITLE: The development of a practical synthesis of the potent and selective somatostatin sst3 receptor antagonist [4-(3,4-difluoro-phenyl)-piperazine-1-yl]-{(4S,4aS,8aR)-2[(S)-3-(6-methoxy-pyridin-3-yl)-2-methyl-propyl]-decahydroisoquinoline-4-yl}-methanone (NVP-ACQ090)

AUTHOR(S): Banziger, Markus; Cercus, Jacques; Hirt, Hans; Laumen, Kurt; Malan, Christophe; Spindler, Felix; Struber, Fritz; Troxler, Thomas

CORPORATE SOURCE: Chemical & Analytical Development, Novartis Pharma AG, Basel, CH-4002, Switz.

SOURCE: Tetrahedron: Asymmetry (2003), 14(22), 3469-3477
CODEN: TASYE3; ISSN: 0957-4166

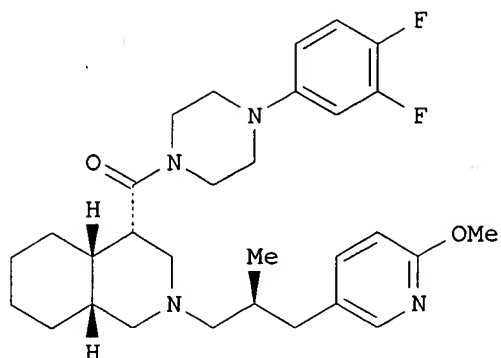
PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:128379

GI



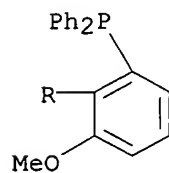
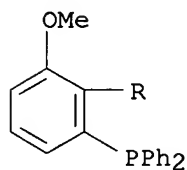
I

AB The decahydroisoquinoline I (NVP-ACQ090) is a potent and selective antagonist at the somatostatin sst3 receptor. The original research synthesis of I comprises a main chain of nine linear steps and two side chains of three and steps, resp. This synthesis is highly convergent, but very complex and expensive, and involves several reagents that are not acceptable for a large scale synthesis. In chemical development, all the unacceptables could be replaced, and the overall efficiency of the synthesis was much improved.

IT 133545-16-1 150971-49-6 256390-47-3
352655-61-9 505032-20-2
RL: CAT (Catalyst use); USES (Uses)
(enantioselective hydrogenation; large-scale preparation of somatostatin receptor antagonist, (piperazinylcarbonyl)(pyridylpropyl)decahydroisoquinoline)

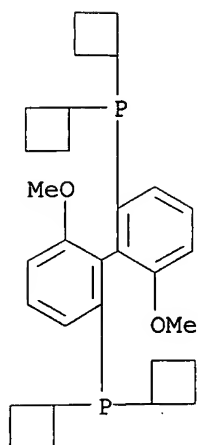
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



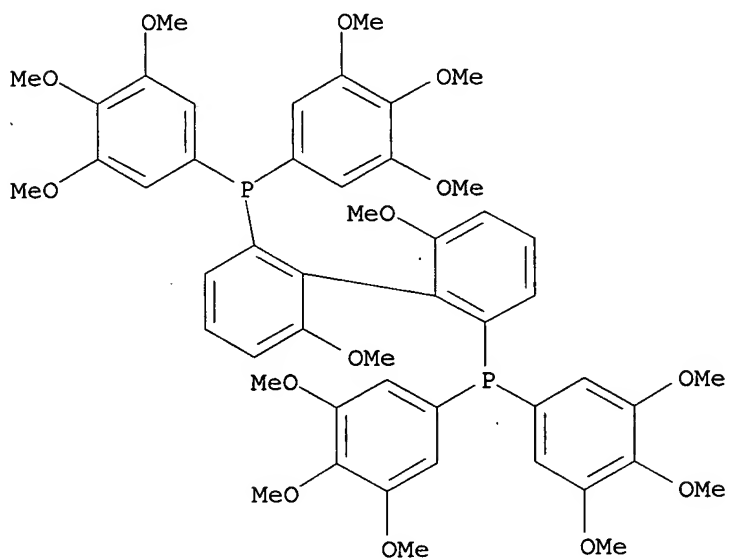
RN 150971-49-6 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclobutyl- (9CI) (CA INDEX NAME)]



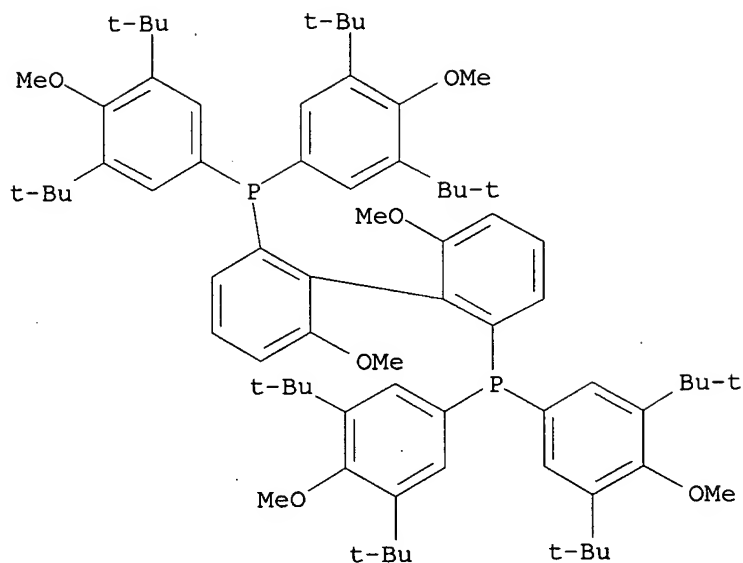
RN 256390-47-3 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,4,5-trimethoxyphenyl)- (9CI) (CA INDEX NAME)]

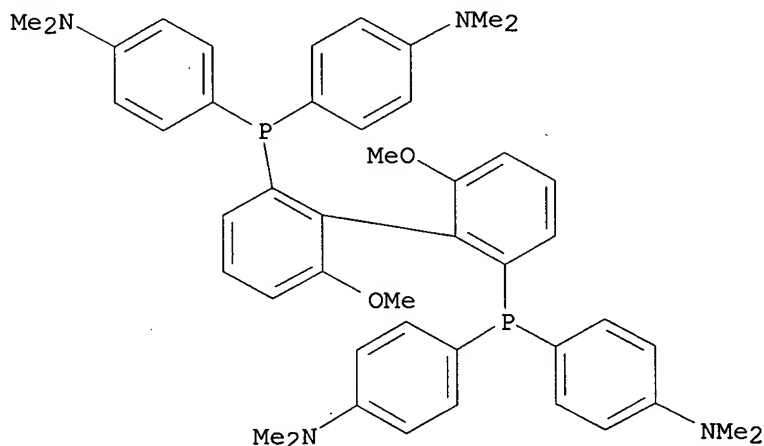


RN 352655-61-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)]



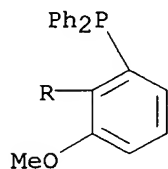
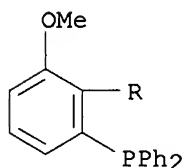
RN 505032-20-2 CAPLUS
 CN Benzenamine, 4,4',4'',4'''-[[[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]diphosphinidyne]tetrakis[N,N-dimethyl- (9CI) (CA INDEX NAME)]



REFERENCE COUNT: 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 99 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:844265 CAPLUS
 DOCUMENT NUMBER: 140:59361
 TITLE: Asymmetric Hydrogenation of Ketones with
 Polymer-Supported Chiral 1,2-Diphenylethylenediamine
 AUTHOR(S): Li, Xiaoguang; Chen, Weiping; Hems, William; King,
 Frank; Xiao, Jianliang
 CORPORATE SOURCE: Leverhulme Centre for Innovative Catalysis, Department
 of Chemistry, University of Liverpool, Liverpool, L69
 7ZD, UK
 SOURCE: Organic Letters (2003), 5(24), 4559-4561
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal

LANGUAGE: English
 OTHER SOURCE(S): CASREACT 140:59361
 AB A poly(ethylene glycol)-supported chiral diamine (PEG-2), in which the polymer is attached to the Ph rings, has been synthesized and shown to be highly effective in asym. hydrogenation of unfunctionalized aromatic ketones with the possibility of reuse. PEG-2 can also serve as a chiral scaffold on which various immobilized chiral catalysts could be easily built.
 IT 133545-16-1, (R)-MeO-BIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (asym. hydrogenation of various aromatic ketones in presence of preparation of poly(ethylene glycol)-supported chiral diphenylethylenediamine/ruthenium complexes and diphosphine ligands)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 100 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:757681 CAPLUS
 DOCUMENT NUMBER: 139:261176
 TITLE: Process for asymmetric hydrogenation of hexahydroquinoline salts
 INVENTOR(S): Puentener, Kurt; Scalone, Michelangelo; Wang, Shaoning
 PATENT ASSIGNEE(S): Roche Vitamins A.-G., Switz.
 SOURCE: PCT Int. Appl., 16 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003078399	A1	20030925	WO 2003-EP2610	20030313
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,				

FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

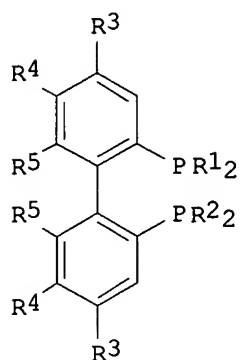
CA 2478275	A1	20030925	CA 2003-2478275	20030313
AU 2003227057	A1	20030929	AU 2003-227057	20030313
EP 1485357	A1	20041215	EP 2003-744359	20030313
EP 1485357	B1	20050706		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

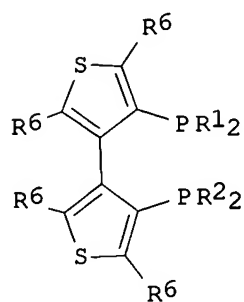
US 2005148776	A1	20050707	US 2003-507940	20030313
CN 1639127	A	20050713	CN 2003-804515	20030313
AT 299136	T	20050715	AT 2003-744359	20030313
JP 2005527527	T	20050915	JP 2003-576405	20030313

PRIORITY APPLN. INFO.: EP 2002-6124 A 20020319
 WO 2003-EP2610 W 20030313

OTHER SOURCE(S): CASREACT 139:261176; MARPAT 139:261176
 GI



I

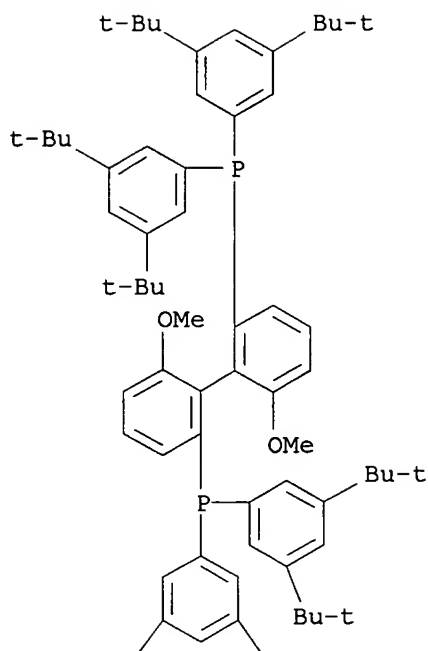


II

AB The asym. hydrogenation of 1-(4-methoxybenzyl)-3,4,5,6,7,8-hexahydroisoquinolinium salts to yield (S) or (R)-1-(4-methoxybenzyl)-1,2,3,4,5,6,7,8-hexahydroisoquinolinium salts can be effected with superior optical yield by the use of an iridium or rhodium complex catalyst comprising a chiral diphosphine ligands, I and II (R1, R2 = Ph substituted C1-8 alkyl, C1-8 alkoxy, di(C1-8 alkyl)amino, morpholino, Ph, tri-C1-8-alkylsilyl, etc.; R3, R4 = H, C1-8 alkyl, C1-8 alkoxy, C1-8 dialkylamino, etc.; R5 = C1-8 alkyl, C1-8 alkoxy, OH, C1-8 alkyl-C(O)O, etc.; R6 = C1-8 alkyl, etc.), (S)-1-(4-methoxybenzyl)-1,2,3,4,5,6,7,8-hexahydroisoquinoline and salts thereof are intermediate products in the manufacture of dextromethorphan, a known antitussive agent. Thus, reaction of [Ir(COD)Cl]2 with (S)-3,5-tBu-MeOBIPHEP in MeOH at room temperature gave the catalyst which was used as asym. hydrogenation catalyst for 1-(4-methoxybenzyl)-3,4,5,6,7,8-hexahydroisoquinoline hydrogen sulfate.

IT 167709-31-1
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (chiral diphosphine rhodium or iridium complex catalyzed process for asym. hydrogenation of hexahydroquinoline salts)

RN 167709-31-1 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 101 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:757296 CAPLUS
 DOCUMENT NUMBER: 139:276809
 TITLE: Process for preparing nonracemic chiral alcohols
 INVENTOR(S): Tucker, Charles E.; Jiang, Qiongzong
 PATENT ASSIGNEE(S): DSM N.V., Neth.
 SOURCE: U.S. Pat. Appl. Publ., 17 pp., Cont.-in-part of
 U.S.Ser.No. 57,826.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 7
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003181319	A1	20030925	US 2002-158560	20020521
US 2003144521	A1	20030731	US 2002-57826	20020124
US 6743921	B2	20040601		
WO 2003061826	A1	20030731	WO 2002-NL827	20021213

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,

PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ,
 CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2002-57826 A2 20020124
 US 2002-158560 A 20020521

OTHER SOURCE(S): MARPAT 139:276809

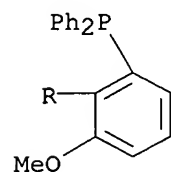
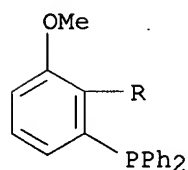
AB The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral alc. by hydrogenation of a ketone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, a bidentate amine ligand, and an organic base selected from alkylamidines, alkylguanidines, aminophosphazenes, and proazaphosphatranes. Thus, in a dry nitrogen-filled glovebox, a 20-mL glass reaction vial was charged with 5 mL 250 μ L (1.25 μ mol) [RuCl₂(R,R,R,R-BICP)(DMF)_n] (preparation given) in isopropanol, 5 mL isopropanol, and 125 μ L 0.1 M (12.5 μ mol) ethylenediamine in isopropanol. After stirring for several minutes, 73 μ L (625 μ mol) acetophenone was added, followed by 0.50 mL 0.1 M (50 μ mol) tetramethyl-2-tert-butylguanidine in isopropanol. The glass reaction vial containing the resulting mixture was sealed in an autoclave and then removed from the glovebox. The gas phase in the autoclave was replaced by hydrogen at 18 bar and the reaction mixture was stirred at room temperature

for 6 h under 17-18 bar hydrogen to give, after silica gel chromatog., (S)-1-phenylethanol (77% e.e.).

IT 133545-17-2, (S)-MeOBIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of nonracemic chiral alcs. by stereoselective hydrogenation of ketone using catalyst system, comprising ruthenium complex, nonracemic chiral diphosphine ligand, bidentate amine ligand, and organic base)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



L3 ANSWER 102 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:717728 CAPLUS
 DOCUMENT NUMBER: 139:245769
 TITLE: Process for preparing nonracemic chiral alcohols
 INVENTOR(S): Tucker, Charles E.; Jiang, Qiongzong
 PATENT ASSIGNEE(S): Dsm N.V., Neth.
 SOURCE: U.S. Pat. Appl. Publ., 12 pp., Cont.-in-part of U. S. Ser. No. 57,826.

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 7
 PATENT INFORMATION:

CODEN: USXXCO

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003171213	A1	20030911	US 2002-153421	20020521
US 6806378	B2	20041019		
US 2003144521	A1	20030731	US 2002-57826	20020124
US 6743921	B2	20040601		
WO 2003061824	A1	20030731	WO 2002-NL825	20021213
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1465726	A1	20041013	EP 2002-786244	20021213
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
PRIORITY APPLN. INFO.:			US 2002-57826	A2 20020124
			US 2002-153421	A 20020521
			WO 2002-NL825	W 20021213

OTHER SOURCE(S): MARPAT 139:245769

AB The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral aromatic alc. such as S-1-phenyl-1-ethanol by

hydrogenation of a ketone such as acetophenone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, an amino-thioether ligand, and a base.

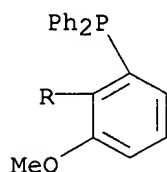
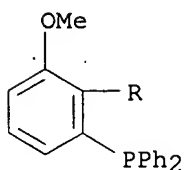
IT 133545-16-1 133545-17-2, S-2,2'-Bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-biphenyl

RL: CAT (Catalyst use); USES (Uses)

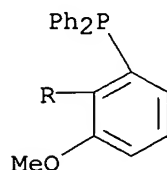
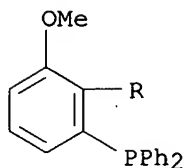
(preparing nonracemic chiral alcs. by hydrogenation of ketones in presence of ruthenium, nonracemic chiral diphosphine ligands, amino thioether ligands, and bases)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



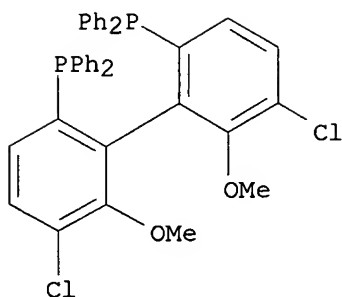
REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 103 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:679432 CAPLUS
DOCUMENT NUMBER: 139:291814
TITLE: First Catalytic Reductive Coupling of 1,3-Diynes to Carbonyl Partners: A New Regio- and Enantioselective C-C Bond Forming Hydrogenation
AUTHOR(S): Huddleston, Ryan R.; Jang, Hye-Young; Krische, Michael J.
CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of Texas at Austin, Austin, TX, 78712, USA
SOURCE: Journal of the American Chemical Society (2003), 125(38), 11488-11489
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:291814

AB Upon exposure of diynes and glyoxals to cationic Rh(I) catalysts under 1 atm of hydrogen gas, regioselective condensation occurs to afford highly unsatd. enyne products without over-reduction In the presence of chiral phosphine ligands, reductive coupling products are obtained in high enantiomeric excess at ambient temperature and pressure. The present studies are among the first examples of the electrophilic trapping of organometallic intermediates obtained transiently under the conditions of catalytic hydrogenation.

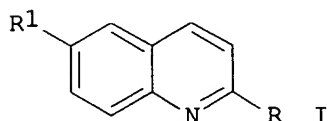
IT 185913-97-7
RL: CAT (Catalyst use); USES (Uses)
(regioselective and enantioselective catalytic reductive condensation of 1,3-diynes with glyoxals under the conditions of catalytic hydrogenation)

RN 185913-97-7 CAPLUS
CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 104 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:617586 CAPLUS
 DOCUMENT NUMBER: 139:292381
 TITLE: Highly Enantioselective Iridium-Catalyzed Hydrogenation of Heteroaromatic Compounds, Quinolines
 AUTHOR(S): Wang, Wen-Bo; Lu, Sheng-Mei; Yang, Peng-Yu; Han, Xiu-Wen; Zhou, Yong-Gui
 CORPORATE SOURCE: Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China
 SOURCE: Journal of the American Chemical Society (2003), 125(35), 10536-10537
 CODEN: JACSAT; ISSN: 0002-7863
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 139:292381
 GI



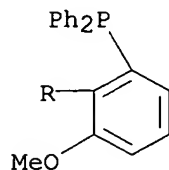
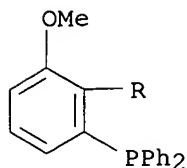
AB The highly enantioselective hydrogenation of quinoline derivs. I (R = Me, 3-butenyl, CH₂OCOMe, etc., R₁ = H, F, Me, MeO) is developed using [Ir(COD)Cl]₂/(R)-MeO-Biphep/I₂ system, and this methodol. has been applied to the asym. synthesis of three naturally occurring alkaloids angustureine, galipinine, and cuspareine. Thus, reacting I (R = n-pentyl, R₁ = H) with [Ir(COD)Cl]₂/(R)-MeO-Biphep/I₂ gave (R)-2-n-pentyl-1,2,3,4-tetrahydroquinoline which was treated with HCHO/HOAc/NaBH₃CN/MeCN to give (-)-angustureine in 94% yield. This method provided an efficient access to a variety of optically active tetrahydroquinolines with up to 96% ee. Furthermore, the absolute configurations of (+)-angustureine and (-)-galipinine can be assigned through this synthesis.

IT 133545-16-1 133545-17-2

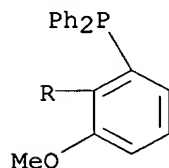
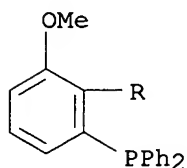
RL: CAT (Catalyst use); USES (Uses)
 (asym. iridium-catalyzed hydrogenation of quinolines and application to synthesis of (-)-angustureine, (-)-cuspareine, (-)-galipinine, and (S)-flumequine)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)



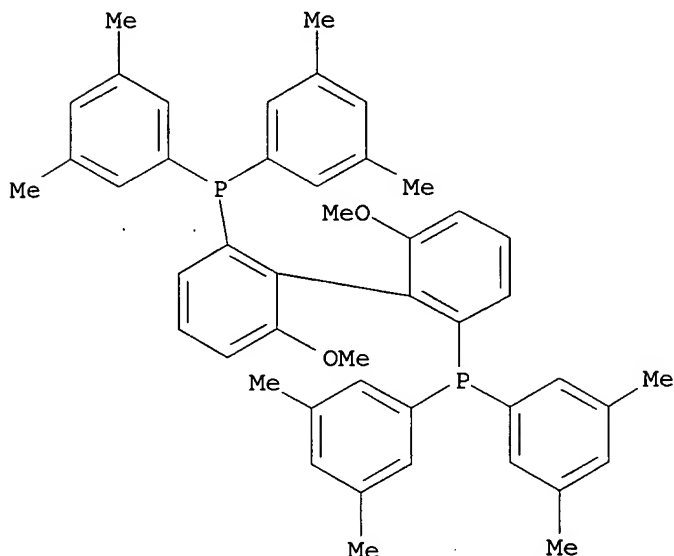
RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 105 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:592748 CAPLUS
 DOCUMENT NUMBER: 139:276631
 TITLE: Tweaking Copper Hydride (CuH) for Synthetic Gain. A Practical, One-Pot Conversion of Dialkyl Ketones to Reduced Trialkylsilyl Ether Derivatives
 AUTHOR(S): Lipshutz, Bruce H.; Caires, Christopher C.; Kuipers, Peter; Chrisman, Will
 CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of California, Santa Barbara, CA, 93106, USA
 SOURCE: Organic Letters (2003), 5(17), 3085-3088
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 139:276631
 AB Variations in the reagents and stoichiometries used to generate CuH in situ, as well as the nature of the ligands present, have led to a very efficient and inexpensive method for effecting hydrosilylations of dialkyl ketones R1COR2 [R1 = Me, R2 = PhCH2CH2, n-C9H19; R1R2 = MeCH(CH2)4; etc.] with formation of trialkylsilyl ethers R1R2CHOSiR32R4 (R3 = R4 = Et; R3 = Me, R4 = Me3C).

IT 362634-22-8
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of trialkylsilyl ethers via copper hydride-mediated hydrosilylation of ketones with trialkyl silanes)
 RN 362634-22-8 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis(3,5-dimethylphenyl)- (CA INDEX NAME)]



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 106 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:591067 CAPLUS
 DOCUMENT NUMBER: 139:151398
 TITLE: Process and ruthenium-based catalysts for preparing nonracemic chiral alcohols
 INVENTOR(S): Tucker, Charles Edward; Jiang, Qiongzong
 PATENT ASSIGNEE(S): Dsm N.V., Neth.
 SOURCE: PCT Int. Appl., 41 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 7
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003061826	A1	20030731	WO 2002-NL827	20021213
W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW	
RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	
US 2003144521	A1	20030731	US 2002-57826	20020124

US 6743921 B2 20040601
 US 2003181319 A1 20030925 US 2002-158560 20020521
 PRIORITY APPLN. INFO.: US 2002-57826 A 20020124
 US 2002-158560 A 20020521

OTHER SOURCE(S): MARPAT 139:151398

AB The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral alc. by hydrogenation of a ketone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, a bidentate amine ligand, and an organic base selected from alkylamidines, alkylguanidines, aminophosphazenes, and proazaphosphatranes. Acetophenone was hydrogenated to S-1-phenethanol using a catalyst system prepared from RuCl₂(benzene)₂, (R,R,R,R)-2,2'-bis-(diphenylphosphino)-1,1'-dicyclopentane, ethylenediamine, and tetramethyl-2-t-butylguanidine.

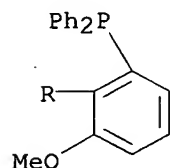
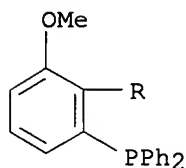
IT 133545-17-2, S-MeOBIPHEP

RL: CAT (Catalyst use); USES (Uses)

(process and ruthenium-based catalysts for preparing nonracemic chiral alcs.)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 107 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:591065 CAPLUS

DOCUMENT NUMBER: 139:151396

TITLE: Process for preparing nonracemic chiral alcohols using ruthenium-based catalysts

INVENTOR(S): Tucker, Charles Edward; Jiang, Qiongzong

PATENT ASSIGNEE(S): Dsm N.V., Neth:

SOURCE: PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 7

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003061824	A1	20030731	WO 2002-NL825	20021213
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
 PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ,
 CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2003144521 A1 20030731 US 2002-57826 20020124
 US 6743921 B2 20040601
 US 2003171213 A1 20030911 US 2002-153421 20020521
 US 6806378 B2 20041019
 EP 1465726 A1 20041013 EP 2002-786244 20021213

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

PRIORITY APPLN. INFO.:

US 2002-57826 A 20020124
 US 2002-153421 A 20020521
 WO 2002-NL825 W 20021213

OTHER SOURCE(S): MARPAT 139:151396

AB The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral alc. by hydrogenation of a ketone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, an amino-thioether ligand, and a base. Acetophenone was hydrogenated to S-1-phenethanol using a catalyst system prepared from RuCl₂(benzene)₂, (R,R,R,R)-2,2'-bis-(diphenylphosphino)-1,1'-dicyclopentane, 2-(ethylthio)aniline, and tetramethyl-2-tert-butylguanidine.

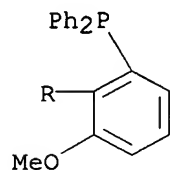
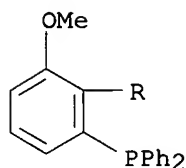
IT 133545-17-2, S-MeOBIPHEP

RL: CAT (Catalyst use); USES (Uses)

(process for preparing nonracemic chiral alcs. using ruthenium-based catalysts)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT:

13

THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 108 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:541308 CAPLUS

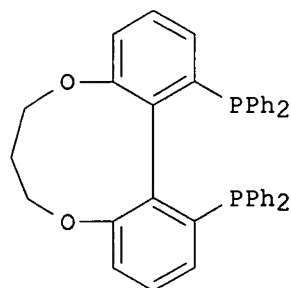
DOCUMENT NUMBER: 139:230354

TITLE: Enantioselective Hydrogenation of Tetrasubstituted Olefins of Cyclic β -(Acylamino)acrylates

AUTHOR(S): Tang, Wenjun; Wu, Shulin; Zhang, Xumu

CORPORATE SOURCE: Department of Chemistry, Pennsylvania State University, University Park, PA, 16802, USA

SOURCE: Journal of the American Chemical Society (2003),
 125(32), 9570-9571
 CODEN: JACSAT; ISSN: 0002-7863
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 139:230354
 GI

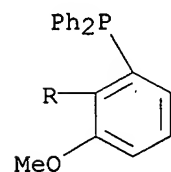
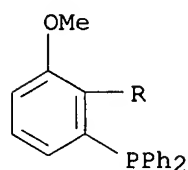


AB Hydrogenation of a series of cyclic β -(acylamino)acrylates with a tetrasubstituted olefin structure has been accomplished successfully with the use of Ru catalysts with chiral biaryl ligands such as C3-TunaPhos (I), and up to over 99% ee's have been achieved. This methodol. provides an efficient catalytic method for the synthesis of both cis and trans chiral cyclic β -amino acid derivs.

IT 133545-17-2, (S)-MeO-BIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (stereoselective hydrogenation of cyclic β -(acylamino)acrylates with tetrasubstituted olefin structure)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 109 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:481969 CAPLUS
 DOCUMENT NUMBER: 139:149694
 TITLE: Asymmetric Hydrosilylation of Aryl Ketones Catalyzed by Copper Hydride Complexed by Nonracemic Biphenyl

Bis-phosphine Ligands

AUTHOR(S): Lipshutz, Bruce H.; Noson, Kevin; Chrisman, Will; Lower, Asher

CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of California, Santa Barbara, CA, 93106, USA

SOURCE: Journal of the American Chemical Society (2003), 125(29), 8779-8789
CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:149694

AB Copper hydride is an extremely reactive catalyst capable of effecting asym. hydrosilylations of aromatic ketones at temps. between -50 and -78°, when complexed by chiral diphosphines of the BIPHEP or the SEGPPOS series. Inexpensive silanes serve as stoichiometric sources of hydride. Substrate-to-ligand ratios exceeding 100,000:1 were achieved. The level of induction is usually in the >90% ee category. The nature of the reagent was investigated using spectroscopic and chemical means, although its exact structure remains unclear.

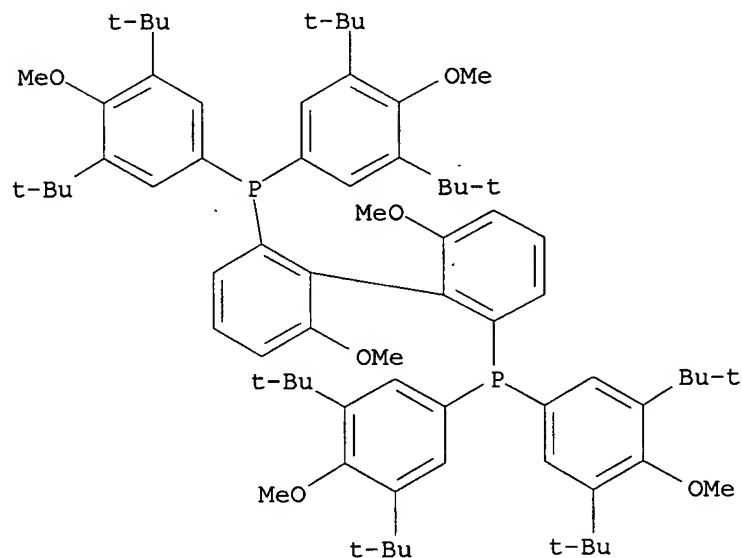
IT 352655-61-9 394248-45-4

RL: CAT (Catalyst use); USES (Uses)

(copper hydride-chiral diphosphine catalyzed asym. hydrosilylation and reduction of aromatic ketones to benzyl alcs.)

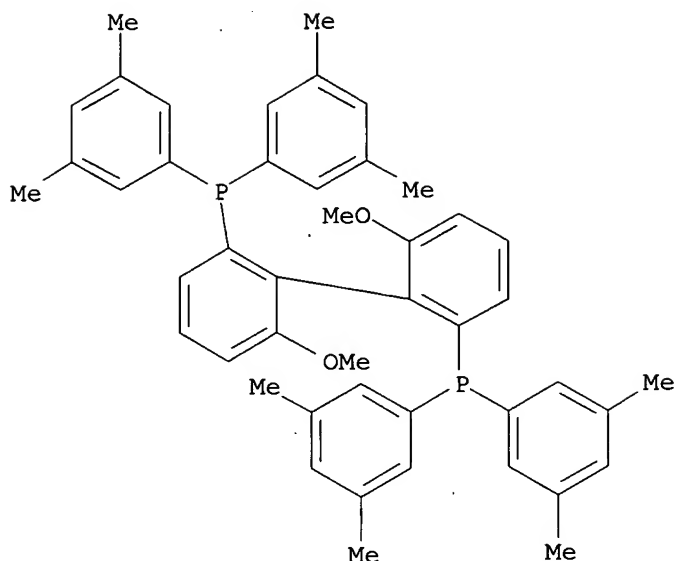
RN 352655-61-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 394248-45-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 69 THERE ARE 69 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 110 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:307851 CAPLUS
 DOCUMENT NUMBER: 139:69492
 TITLE: The First Highly Enantioselective Homogeneously Catalyzed Asymmetric Reductive Amination: Synthesis of α -N-Benzylamino Acids
 AUTHOR(S): Kadyrov, Renat; Riermeier, Thomas H.; Dingerdissen, Uwe; Tararov, Vitali; Boerner, Armin
 CORPORATE SOURCE: Project House Catalysis, Degussa AG, Frankfurt/Main, D-65926, Germany
 SOURCE: Journal of Organic Chemistry (2003), 68(10), 4067-4070
 CODEN: JOCEAH; ISSN: 0022-3263
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 139:69492

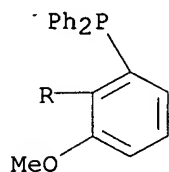
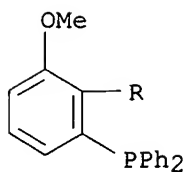
AB High-throughput screening of a library of 96 chiral phosphine ligands for two types of Rh(I) complexes was used to identify homogeneous catalysts for the highly enantioselective reductive amination of α -keto acids HOCCOR (R = CH₂Ph, Me, Ph, CH₂CH₂CO₂H, CH₂CO₂H, CH₂CH₂Ph, CH₂CHMe₂, CH₂CMe₃) by benzylamine. After optimization of the reaction conditions and scale-up with a cationic Rh-Deguphos [Deguphos = (3R,4R)-1-benzyl-3,4-bis(diphenylphosphino)pyrrolidine] catalyst, a range of chiral N-benzyl α -amino acids PhCH₂NHCH(R)CO₂H was produced in good yields with as high as 98% enantiomeric excess.

IT 133545-16-1 133545-24-1

RL: CAT (Catalyst use); USES (Uses)
 (screening of chiral phosphine ligands for rhodium catalyst for asym. reductive amination of keto acids with benzylamine)

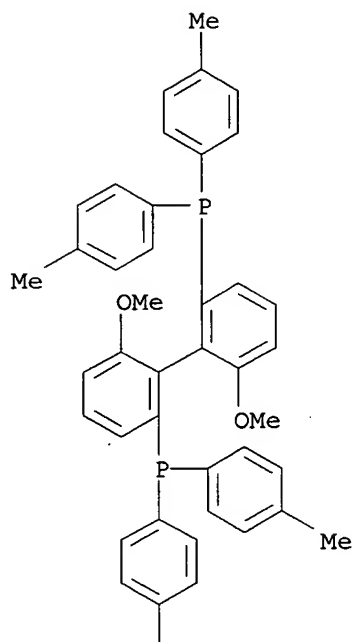
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 133545-24-1 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A



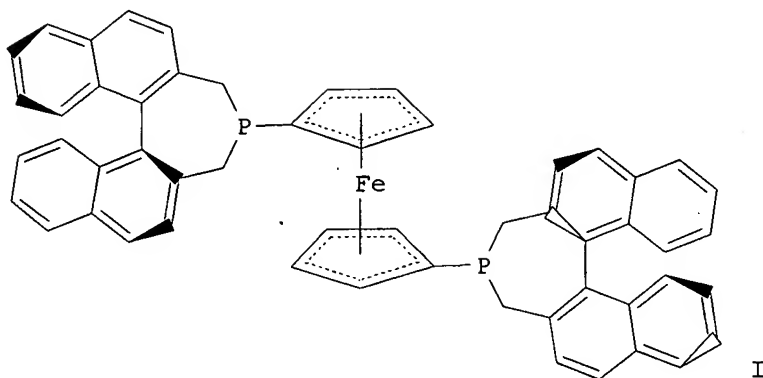
PAGE 2-A



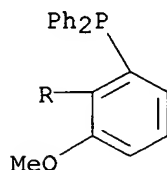
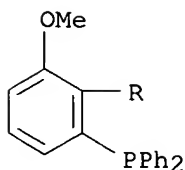
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 111 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:292432 CAPLUS
 DOCUMENT NUMBER: 139:36286
 TITLE: Highly Enantioselective Reductive Amination of Simple

AUTHOR(S): Aryl Ketones Catalyzed by Ir-f-Binaphane in the
 CORPORATE SOURCE: Presence of Titanium(IV) Isopropoxide and Iodine
 SOURCE: Chi, Yongxiang; Zhou, Yong-Gui; Zhang, Xumu
 PUBLISHER: Department of Chemistry, Pennsylvania State
 DOCUMENT TYPE: University, University Park, PA, 16802, USA
 LANGUAGE: Journal of Organic Chemistry (2003), 68(10), 4120-4122
 OTHER SOURCE(S): CODEN: JOCEAH; ISSN: 0022-3263
 GI American Chemical Society
 Journal
 English
 CASREACT 139:36286



AB Secondary aralkyl amines are prepared in >99% yields and in 44-96% ee from
 p-anisidine and aryl alkyl ketones by treatment with titanium
 tetraisopropoxide, iodine, and an iridium catalyst prepared from
 [Ir(η^4 -1,5-COD)Cl]₂ and the nonracemic ligand f-Binaphane I.
 Deprotection of the N-(4-methoxyphenyl) moiety of N-(4-methoxyphenyl)-(R)-
 α -methylbenzylamine with ceric ammonium nitrate yields
 (R)- α -methylbenzylamine in 81% yield. Nonracemic aralkyl amines can
 be prepared in two steps from aralkyl ketones without competing reduction of
 the ketone to the secondary alc.
 IT 133545-16-1, (R)-MeO-BIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (alternative ligands tried for enantioselective iridium-catalyzed
 reductive aminations of aryl ketones and p-anisidine in the presence of
 iodine and titanium tetraisopropoxide)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 112 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:244382 CAPLUS
 DOCUMENT NUMBER: 139:197234
 TITLE: Catalytic asymmetric alkylation in water in the presence of surfactants
 AUTHOR(S): Sinou, Denis; Rabeyrin, Cedric; Nguetack, Christelle
 CORPORATE SOURCE: Fr.
 SOURCE: Advanced Synthesis & Catalysis (2003), 345(3), 357-363
 CODEN: ASCAF7; ISSN: 1615-4150
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 139:197234

AB Asym. palladium-catalyzed alkylation of 1,3-diphenyl-2-propenyl acetate with di-Me malonate occurs in water in the presence of surfactants and a base. The efficiency and enantioselectivity of the coupling reaction depend strongly on the nature and the concentration of the surfactant. The highest yield and enantioselectivity (up to 91%) were obtained using Binap as the ligand in the presence of a cationic surfactant, while neutral or zwitterionic surfactants gave poorer results; anionic surfactants gave no reaction at all. The best results were obtained using Na2CO3, NaHCO3, or K2CO3, among the bases used. The highest enantioselectivities were obtained when the reaction was performed in the presence of chiral atropisomeric diphosphines such as Binap, Biphep, or MeOBiphep. A supported cationic surfactant was also used successfully in this reaction, allowing easier separation of the product.

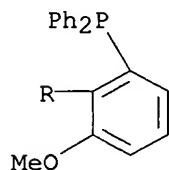
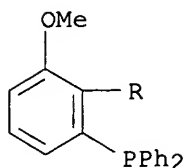
IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(asym. alkylation of 1,3-diphenyl-2-propenyl acetate with di-Me malonate in water in presence of palladium-phosphine catalysts and surfactants)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl]- (CA INDEX NAME)



REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 113 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:129914 CAPLUS

DOCUMENT NUMBER: 139:84781

TITLE: Enantioselective hydrogenation of β -keto esters using chiral diphosphine-ruthenium complexes: Optimization for academic and industrial purposes and synthetic applications

AUTHOR(S): Ratovelomanana-Vidal, V.; Girard, C.; Touati, R.; Tranchier, J. P.; Ben Hassine, B.; Genet, J. P.

CORPORATE SOURCE: Laboratoire de Synthèse Selective Organique et Produits Naturels (UMR 7573 CNRS), Ecole Nationale Supérieure de Chimie de Paris, Paris, 75005, Fr.

SOURCE: Advanced Synthesis & Catalysis (2003), 345(1+2), 261-274

CODEN: ASCAF7; ISSN: 1615-4150

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:84781

AB Enantioselective hydrogenation using chiral complexes between atropisomeric diphosphines and ruthenium is a powerful tool for producing chiral compds. Using a simple and straightforward in situ catalyst preparation, the conditions were optimized using mol. hydrogen. This led to the best conditions and the lowest catalytic ratio required for the pressure used. Hydrogenation of various β -keto esters was efficiently performed at atmospheric and higher pressures, leading to the use

of very low catalyst-substrate ratios up to 1/20,000. Asym. hydrogenations were used in key-steps towards the total synthesis of corynomycolic acid, Duloxetine and Fluoxetine.

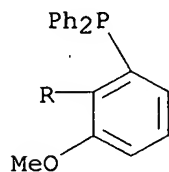
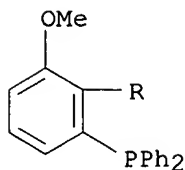
IT 133545-16-1, R-MeO-BIPHEP 133545-17-2, S-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

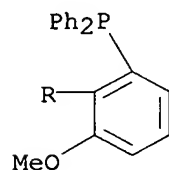
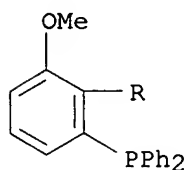
(enantioselective hydrogenation of β -keto esters using chiral diphosphine-ruthenium complexes)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 119 THERE ARE 119 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L3 ANSWER 114 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:129897 CAPLUS

DOCUMENT NUMBER: 139:116947

TITLE: A novel class of ferrocenyl-aryl-based diphosphine ligands for Rh- and Ru-catalysed enantioselective hydrogenation

AUTHOR(S): Sturm, Thomas; Weissensteiner, Walter; Spindler, Felix
 CORPORATE SOURCE: Institute of Organic Chemistry, University of Vienna, Vienna, 1090, Austria

SOURCE: Advanced Synthesis & Catalysis (2003), 345(1+2), 160-164

CODEN: ASCAF7; ISSN: 1615-4150

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:116947

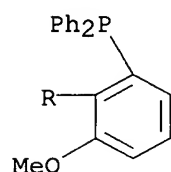
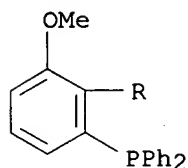
AB A series of diphosphines of the novel Walphos ligand family all based on a phenylferrocenylethyl backbone were synthesized in a four-step sequence. In the rhodium- or ruthenium-catalyzed asym. hydrogenation of olefins and ketones enantioselectivities of up to 95% and 97%, resp., were obtained. A 2-isopropylcinnamic acid derivative of industrial interest was hydrogenated

in 95% ee and with turnover nos. of > 5000.

IT 133545-16-1
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of ferrocenyl-aryl-based diphosphine ligands for catalyzed
 enantioselective hydrogenation of substituted acrylic acid to saturated
 acid as potential intermediate for renin inhibitor SPP 100)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 115 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:93074 CAPLUS

DOCUMENT NUMBER: 138:153227

TITLE: Preparation of amines via catalytic hydrogenation of
 amins and related compounds

PATENT ASSIGNEE(S): Degussa AG, Germany

SOURCE: Ger. Offen., 22 pp.
 CODEN: GWXXBX

DOCUMENT TYPE: Patent

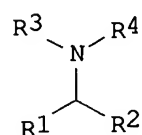
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

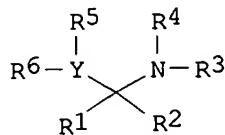
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10133782	A1	20030206	DE 2001-10133782	20010716
PRIORITY APPLN. INFO.:			DE 2001-10133782	20010716
OTHER SOURCE(S):	CASREACT 138:153227; MARPAT 138:153227			

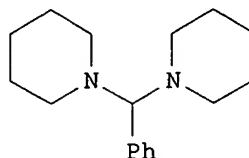
GI



I



II



III

AB A process for the preparation of title compds. I via catalytic hydrogenation of
 amins and related compds. II [Y = O, N with the proviso that when Y = O,

then R5 or R6 = free pair of electrons; R1, R2, R3, R4, R5, R6 = H, alkyl, alkenyl, etc.] is disclosed. For example, a mixture of phenylmethane III (5.0 mmol), [Rh(DPOE)COD]BF₄ (0.01 mmol) in methanol (10 mL) was stirred under hydrogen gas (52 bar) for 1.5 h. Evaporation of the solvent afforded N-benzylpiperidine in quant. yield. Approx. 17-specific examples of compds. I were prepared

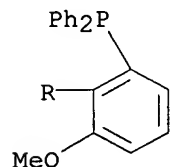
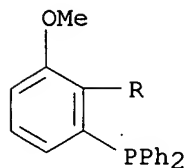
IT 133545-16-1 133545-24-1

RL: RGT (Reagent); RACT (Reactant or reagent)

(preparation of amines via catalytic hydrogenation of amins and related compds.)

RN 133545-16-1 CAPLUS

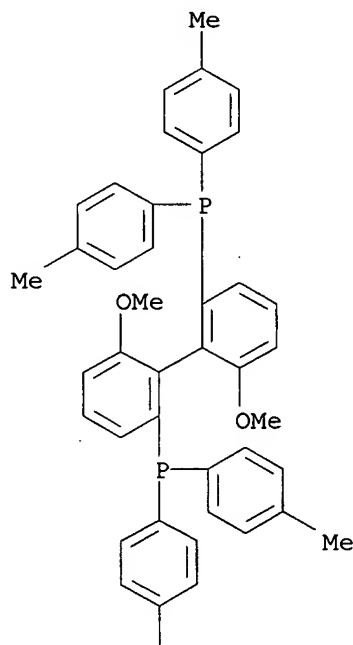
CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



RN 133545-24-1 CAPLUS

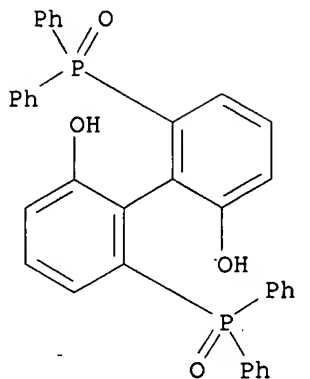
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)]

PAGE 1-A



Me

L3 ANSWER 116 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:980764 CAPLUS
 DOCUMENT NUMBER: 138:376639
 TITLE: (R)-(6,6'-Dihydroxybiphenyl-2,2'-
 diyl)bis(diphenylphosphine oxide) methanol solvate
 AUTHOR(S): Qiu, Li Qin; Qi, Jian Ying; Ji, Jian Xin; Zhou, Zhong
 Yuan; Yeung, Chi Hung; Choi, Michael C. K.; Chan,
 Albert S. C.
 CORPORATE SOURCE: Open Laboratory of Chirotechnology of the Institute of
 Molecular Technology for Drug Discovery and Synthesis
 and Department of Applied Biology and Chemical
 Technology, Hong Kong Polytechnic University, Hong
 Kong, Peop. Rep. China
 SOURCE: Acta Crystallographica, Section C: Crystal Structure
 Communications (2003), C59(1), o33-o35
 CODEN: ACSCEE; ISSN: 0108-2701
 PUBLISHER: Blackwell Munksgaard
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The title compound, C₃₆H₂₈O₄P₂·CH₄O, was synthesized directly from
 the methoxy analog. The crystal structure shows that one OH group
 interacts with an O atom of a phosphine oxide group in an adjacent mol.,
 while the other OH group complexes with the MeOH solvent mol. via
 intermol. H bonds. An O atom of one phosphine oxide group interacts with
 the hydroxy H atom of MeOH via a H bond. There are intra- and intermol.
 π - π interactions between the Ph rings. All these interactions gave
 supramol. chiral parallelogram channels via self-assembly. Crystallog.
 data are given.
 IT 524711-76-0P, (R)-(6,6'-Dihydroxybiphenyl-2,2'-
 diyl)bis(diphenylphosphine oxide) methanol solvate (1:1)
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (crystal structure of)
 RN 524711-76-0 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)-, compd.
 with methanol (1:1) (9CI) (CA INDEX NAME)
 CM 1
 CRN 524711-75-9
 CMF C36 H28 O4 P2



CM 2

CRN 67-56-1

CMF C H4 O

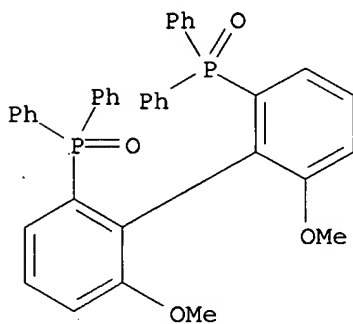
H₃C-OH

IT 133577-82-9, (R)-(6,6'-Dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine oxide)

RL: RCT (Reactant); RACT (Reactant or reagent)
(demethoxylation using tribromoboron of)

RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

9

THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 117 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:876328 CAPLUS

DOCUMENT NUMBER: 138:287465

TITLE: Potassium organotrifluoroborates in rhodium-catalyzed asymmetric 1,4-additions to enones

AUTHOR(S): Pucheault, Mathieu; Darses, Sylvain; Genet, Jean-Pierre

CORPORATE SOURCE: Laboratoire de Synthèse Selective Organique (UMR 7573, CNRS), Ecole Nationale Supérieure de Chimie de Paris, Paris, 75231/05, Fr.

SOURCE: European Journal of Organic Chemistry (2002), (21), 3552-3557

PUBLISHER: CODEN: EJOCFK; ISSN: 1434-193X
 DOCUMENT TYPE: Wiley-VCH Verlag GmbH & Co. KGaA
 LANGUAGE: Journal
 OTHER SOURCE(S): English
 CASREACT 138:287465

AB Potassium organotrifluoroborates, highly stable organoboron derivs., participate in asym. 1,4-addns. to enones. This reaction, catalyzed by cationic rhodium complexes chelated with BINAP, MeO-biphep, or Josiphos ligand, affords 1,4-adducts with high yields and enantioselectivities of up to 99%. Careful study of the reaction parameters shows the high sensitivity of the reaction to temperature, solvent, and the amount of water cosolvent. The 1,4-addition of potassium trifluorophenylborate to 2-cyclohexen-1-one in the presence of bis[(1,2,5,6- η)-1,5-cyclooctadiene]rhodium hexafluorophosphate(1-) and (1R)-[1,1'-binaphthalene]-2,2'-diylbis[diphenylphosphine] [(R)-BINAP] gave (+)-(3R)-3-Phenylcyclohexanone in 98% enantiomeric excess and in 99% yield.

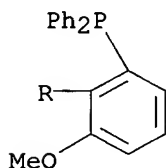
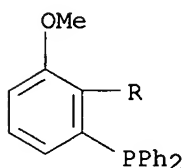
IT 133545-16-1 145264-61-5 505032-20-2

RL: CAT (Catalyst use); USES (Uses)

(potassium organotrifluoroborates in rhodium-catalyzed asym. addition to enones)

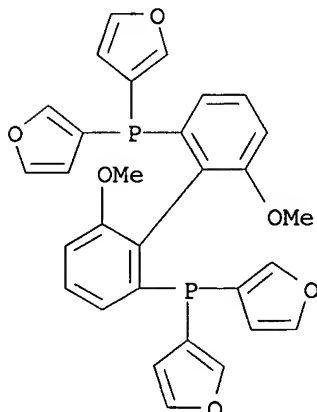
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)

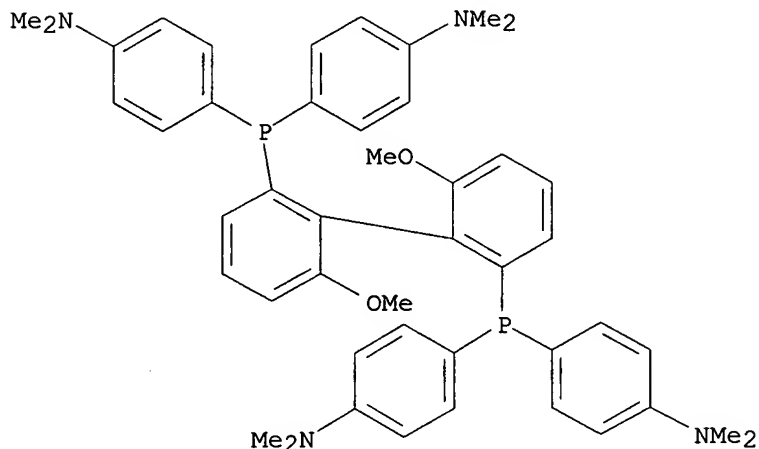


RN 145264-61-5 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-3-furanyl-(9CI) (CA INDEX NAME)



RN 505032-20-2 CAPLUS
 CN Benzenamine, 4,4',4'',4'''-[[[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]diphosphinidyne]tetrakis[N,N-dimethyl- (9CI) (CA INDEX NAME)]



REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 118 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:756468 CAPLUS

DOCUMENT NUMBER: 138:187577

TITLE: Highly enantioselective Rh-catalyzed intramolecular Alder-Ene reactions for the syntheses of chiral tetrahydrofurans

AUTHOR(S): Lei, Aiwen; He, Minsheng; Wu, Shulin; Zhang, Xumu

CORPORATE SOURCE: Department of Chemistry, The Pennsylvania State University, University Park, PA, 16802, USA

SOURCE: Angewandte Chemie, International Edition (2002), 41(18), 3457-3460

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 138:187577

AB Over 99% ee was obtained for all the tested substrates in a Rh-catalyzed Alder-ene reaction. Simply mixing air-stable, com. available [[Rh(cod)Cl]2] (cod = 1,5-cyclopentadiene) and 2,2'-bis(diphenylphosphanyl)-1,1'-binaphthyl (BINAP) at room temperature afforded functionalized and chiral tetrahydrofurans in high yields with high efficiency (turnover frequency: 1500 h⁻¹). The catalyst loading was as low as 0.8 mol %.

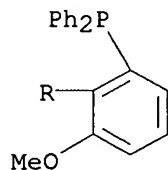
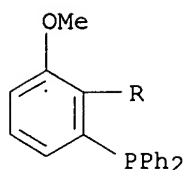
IT 133545-17-2, [(1S)-6,6'-Dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenylphosphine]

RL: CAT (Catalyst use); USES (Uses)

(highly enantioselective rhodium-catalyzed intramol. Alder-ene reactions for synthesis of chiral tetrahydrofurans)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 119 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:639817 CAPLUS

DOCUMENT NUMBER: 137:352484

TITLE: New efficient copper fluoride-based catalyst for enantioselective hydrosilylation of ketones in aerobic conditions

AUTHOR(S): Courmarcel, James; Mostefai, Naouel; Sirol, Sabine; Choppin, Sabine; Riant, Olivier

CORPORATE SOURCE: Laboratoire de Chimie Organique et Medicinale, Universite Catholique de Louvain, Louvain-la-Neuve, B-1348, Belg.

SOURCE: Israel Journal of Chemistry (2002), Volume Date 2001, 41(4), 231-240

CODEN: ISJCAT; ISSN: 0021-2148

PUBLISHER: Laser Pages Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 137:352484

AB A copper(II) fluoride-chiral diphosphines catalytic system was developed. The catalyst is efficient and selective for the hydrosilylation of several substituted or unsubstituted aromatic ketones with moderate to excellent enantioselectivity. An oxygen acceleration effect was observed, that is the basis for a practical synthetic protocol with a low amount of catalyst.

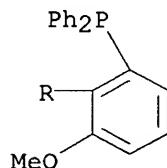
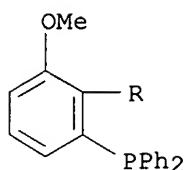
IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(catalyst ligand, chiral diphosphine; efficient enantioselective copper fluoride-chiral phosphine ligand catalyst system in asym. hydrosilylation and reduction of ketones)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 120 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:591572 CAPLUS
 DOCUMENT NUMBER: 137:156425
 TITLE: Procedure for the production of non-chiral and optically active hydroxy-containing organic compounds
 INVENTOR(S): Arlt, Prof
 PATENT ASSIGNEE(S): Bayer A.-G., Germany
 SOURCE: Ger. Offen., 8 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10105104	A1	20020808	DE 2001-10105104	20010205
CA 2442165	A1	20021003	CA 2002-2442165	20020125
WO 2002076997	A1	20021003	WO 2002-EP808	20020125
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1409493	A1	20040421	EP 2002-735103	20020125
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004531502	T	20041014	JP 2002-576255	20020125
US 2002111515	A1	20020815	US 2002-66979	20020204
US 6787676	B2	20040907		
PRIORITY APPLN. INFO.:			DE 2001-10105104	A 20010205
			WO 2002-EP808	W 20020125

AB Non-chiral and in particular optically active alcs. are made from carbonyl compds. with hydrogen in presence of a catalyst containing a base and, optionally, a diamine, preferably produced when a catalyst is utilized that contains both a supported ruthenium (II) complex of bisphosphines and diamine ligands. This catalyst exhibits good selectivity and reactivity in continuous processes. Thus, reaction of 0.5 g (S)-6,6'-

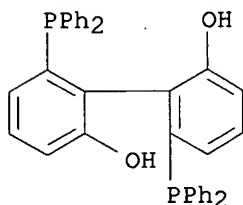
dihydroxybiphenyl-2,2'-diylbis(diphenylphosphine) with 4 g TentaGel S-Br (reaction product of crosslinked polystyrene with polyethylene glycol having CH₂CH₂Br end groups) in DMF in the presence of NaH and reaction of 800 mg modified support with 53 mg bis(2-methallyl)(cycloocta-1,5-diene)ruthenium(II), and hydrogenation of acetophenone in iso-PrOH in the presence of the resulting catalyst, (S)-1,1-bis(p-anisyl)-3-methyl-1,2-diaminobutane, and KOH 6 h at 40° by 50 bar H gave 99% 1-phenylethanol containing 90% R-enantiomer.

IT 151395-62-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(catalyst precursor; production of nonchiral and optically active alcs. from carbonyl compds in presence of bases and supported ruthenium complex catalysts)

RN 151395-62-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 121 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:552940 CAPLUS

DOCUMENT NUMBER: 138:39330

TITLE: Synthesis of biologically active 1-arylethylphosphonates

AUTHOR(S): Gulyukina, N. S.; Dolgina, T. M.; Bondarenko, G. N.; Beletskaya, I. P.; Bondarenko, N. A.; Henry, J.-C.; Lavergne, D.; Ratovelomanana-Vidal, V.; Genet, J.-P.

CORPORATE SOURCE: Lomonosov Moscow State University, Moscow, 119899, Russia

SOURCE: Russian Journal of Organic Chemistry (Translation of Zhurnal Organicheskoi Khimii) (2002), 38(4), 573-587
CODEN: RJOCEQ; ISSN: 1070-4280

PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 138:39330

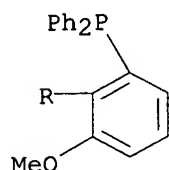
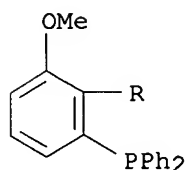
AB A convenient and inexpensive general preparation method for 1-arylethylphosphonic acids and their esters was developed involving in reduction of the corresponding 1-ethenylphosphonates by ammonium formate in the presence of palladium on carbon. A homogeneous enantioselective hydrogenation of 1-arylethenylphosphonic acids in the presence of chiral ruthenium catalysts provided optically active 1-arylethylphosphonic acids of enantiomeric purity up to 86%. The preliminary data on biol. activity testing of the 1-arylethylphosphonic acids synthesized evidence that some among the compds. obtained are low-toxic substances with the properties of immunosuppressors of the central type of action.

IT 133545-16-1 145214-57-9

RL: CAT (Catalyst use); USES (Uses)
(ruthenium catalyzed enantioselective hydrogenation of
arylethenylphosphonic acid in presence of)

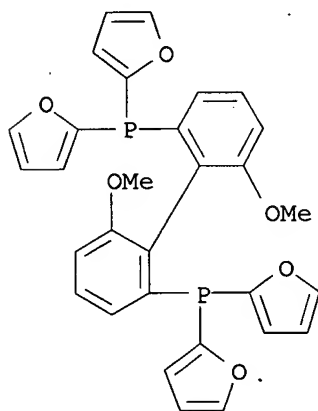
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 145214-57-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

71. THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 122 OF 212

ACCESSION NUMBER:

DOCUMENT NUMBER:

TITLE:

INVENTOR(S):

PATENT ASSIGNEE(S):

SOURCE:

DOCUMENT TYPE:

LANGUAGE:

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

CAPLUS COPYRIGHT 2007 ACS on STN

2002:539679 CAPLUS

137:109204

Novel process for the synthesis of
5-(4-fluorophenyl)-1-[2-((2R,4R)-4-hydroxy-6-oxo-
tetrahydropyran-2-yl)-ethyl]-2-isopropyl-4-phenyl-1H-
pyrrole-3-carboxylic acid N-phenylamide

Butler, Donald Eugene; Dejong, Randall Lee; Nelson,
Jade Douglas; Pamment, Michael Gerard; Stuk, Timothy
Lee

Warner-Lambert Company, USA

PCT Int. Appl., 82 pp.

CODEN: PIXXD2

Patent

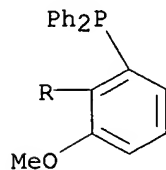
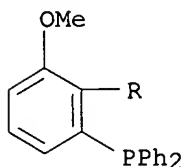
English

1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002055519	A2	20020718	WO 2001-IB2729	20011227
WO 2002055519	A3	20020919		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2002133026	A1	20020919	US 2001-15558	20011217
US 6476235	B2	20021105		
CA 2432064	A1	20020718	CA 2001-2432064	20011227
CA 2538995	A1	20020718	CA 2001-2538995	20011227
BR 2001016739	A	20030930	BR 2001-16739	20011227
EP 1353917	A2	20031022	EP 2001-273081	20011227
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
HU 200302647	A2	20031128	HU 2003-2647	20011227
JP 2004520351	T	20040708	JP 2002-556188	20011227
RU 2244714	C1	20050120	RU 2003-120510	20011227
CN 1696129	A	20051116	CN 2005-10005601	20011227
EP 1724256	A2	20061122	EP 2006-120052	20011227
EP 1724256	A3	20070321		
R:	AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, TR, AL, LT, LV, MK, RO, SI			
EP 1728785	A1	20061206	EP 2006-120053	20011227
R:	AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, TR, AL, LT, LV, MK, RO, SI			
EP 1734034	A2	20061220	EP 2006-120050	20011227
EP 1734034	A3	20070103		
R:	AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, TR, AL, LT, LV, MK, RO, SI			
CN 1907984	A	20070207	CN 2006-10100633	20011227
US 6545153	B1	20030408	US 2002-198682	20020718
US 2003195353	A1	20031016	US 2003-348727	20030121
US 6933393	B2	20050823		
ZA 2003004684	A	20040628	ZA 2003-4684	20030617
IN 2003MN00611	A	20050624	IN 2003-MN611	20030618
HK 1060572	A1	20051223	HK 2004-103610	20040521
IN 2004MN00395	A	20050429	IN 2004-MN395	20040719
IN 2004MN00396	A	20050429	IN 2004-MN396	20040719
US 2005239869	A1	20051027	US 2005-109396	20050419
US 7183408	B2	20070227		
US 2007032662	A1	20070208	US 2006-545870	20061011
US 2007032663	A1	20070208	US 2006-545899	20061011
US 2007032664	A1	20070208	US 2006-546047	20061011
PRIORITY APPLN. INFO.:			US 2001-260505P	P 20010109
			US 2001-15558	A3 20011217
			CA 2001-2432064	A3 20011227
			CN 2001-822509	A3 20011227
			CN 2005-10005601	A3 20011227
			EP 2001-273081	A3 20011227
			WO 2001-IB2729	W 20011227
			US 2002-198682	A3 20020718
			US 2003-348727	A3 20030121
			IN 2003-MN611	A3 20030618
			US 2005-109396	A3 20050419

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

- AB An improved process for the preparation of 5-(4-fluorophenyl)-1-[2-((2R,4R)-4-hydroxy-6-oxo-tetrahydropyran-2-yl)ethyl]-2-isopropyl-4-phenyl-1H-pyrrole-3-carboxylic acid phenylamide (I) was disclosed. Morpholine was condensed with Me cyanoacetate (MTBE, 55°, 12-18 h), the product reduced to the amine (MeOH, HCl, H₂-Pt/C @ 50 psi, 24 h), converted from the hydrochloride to the phenylacetate salt, which was condensed with 2-[2-(4-fluorophenyl)-2-oxo-1-phenylethyl]-4-methyl-3-oxopentanoic acid phenylamide with removal of water (THF, 4-8 mesh 3Å ms, reflux, 24 h) to afford solid II. Et acetoacetate in THF was reacted with NaH at -20° (held at -10° 45 min) followed by n-BuLi at -18° (held at -4° for 90 min) followed by addition of II at -25° and held at -23° for 20 h yielding, after aqueous work-up, A-(CH₂)₂COCH₂COCH₂CO₂Et (III). Reduction of III with a RuCl₂(DMF)_n[(+)-Cl-MeO-BIPHEP] complex (MeOH, 1M HBr, H₂ @ 50 psi, 65°) to afford β,δ-dihydroxy ester IV in a 1:1.5 syn:anti with a ≥98% enantiomeric excess at the δ-hydroxy position in favor of the (R)-configuration (4 diastereomers separated by HPLC; Chiralcel-OD-H). Cyclization/elimination of IV (MeOHaq, KOH, 85°; PhMe, HCl; Ac₂O, NEt₃, DMAP) provides the 6-oxo-3,6-2H-pyran V (98% ee). Treatment of V with BnOH, NaOH at -10° for 19 h followed by hydrogenation (PhMe, 20% Pd(OH)₂/C, 50 psi, 50°, 16 h) provided VI as a white solid (anti:syn 99:1, enantiomeric excess at the pyran C5 of 99% favoring the (R)-configuration). Alternate methods for several steps were provided. Utilization of VI for the preparation of atorvastatin calcium was also exemplified. Reduction of β,δ-diketo esters reported herein is more stereoselective, can be executed at lower pressures and is more amenable to large-scale manufacturing than prior art examples.
- IT 133545-17-2D, BIPHEP, BINAP and TunaPhos ruthenium complexes
 RL: CAT (Catalyst use); USES (Uses)
 (stereoselective reduction of a β,δ-diketo ester leading to
 5-(4-fluorophenyl)-1-[2-((2R,4R)-4-hydroxy-6-oxo-tetrahydropyran-2-yl)-
 ethyl]-2-iso-Pr-4-Ph-1H-pyrrole-3-carboxylic acid N-phenylamide)
- RN 133545-17-2 CAPLUS
- CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]

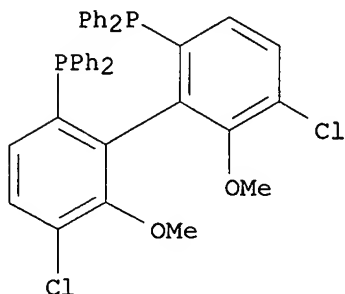


- IT 185913-97-7DP, BIPHEP, BINAP and TunaPhos ruthenium complexes
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)

(stereoselective reduction of a β, δ -diketo ester leading to
 5-(4-fluorophenyl)-1-[2-((2R,4R)-4-hydroxy-6-oxo-tetrahydropyran-2-yl)-
 ethyl]-2-iso-Pr-4-Ph-1H-pyrrole-3-carboxylic acid N-phenylamide)

RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
 diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



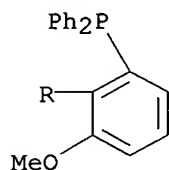
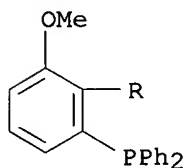
IT 133545-17-2 185913-97-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(stereoselective reduction of a β, δ -diketo ester leading to
 5-(4-fluorophenyl)-1-[2-((2R,4R)-4-hydroxy-6-oxo-tetrahydropyran-2-yl)-
 ethyl]-2-iso-Pr-4-Ph-1H-pyrrole-3-carboxylic acid N-phenylamide)

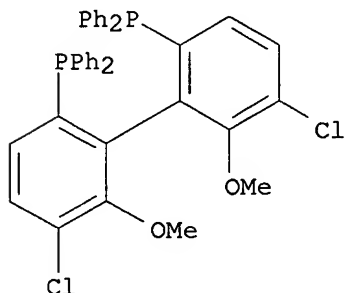
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)]

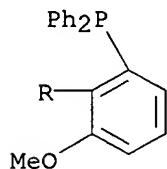
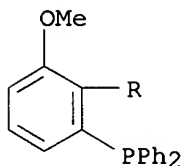


RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
 diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



L3 ANSWER 123 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:478713 CAPLUS
 DOCUMENT NUMBER: 137:370036
 TITLE: Asymmetric palladium-catalyzed annulation of
 benzene-1,2-diols and propargylic carbonates
 AUTHOR(S): Labrosse, Jean-Robert; Lhoste, Paul; Sinou, Denis
 CORPORATE SOURCE: Laboratoire de Synthèse Asymétrique, associé au CNRS,
 ESCPE Lyon, Université Claude Bernard Lyon 1,
 Villeurbanne, 69622, Fr.
 SOURCE: European Journal of Organic Chemistry (2002), (12),
 1966-1971
 CODEN: EJOCFK; ISSN: 1434-193X
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 137:370036
 AB The reaction of benzene-1,2-diol with various propargylic carbonates in
 the presence of a palladium catalyst and various chiral ligands afforded
 the corresponding 2-alkylidene-3-alkyl-2,3-dihydrobenzodioxins in quite
 good yields and enantioselectivities of up to 97%. The highest
 enantiomeric excesses were obtained using atropisomeric diphosphanes as
 the chiral ligands; when (2R,3R)-2,3-O-isopropylidene-2,3-dihydroxy-4-
 bis(diphenylphosphanyl)butane (Diop), (2S,4S)-2,4-
 bis(diphenylphosphanyl)pentane (BDPP) and other ligands gave quite low
 enantioselectivities.
 IT 133545-16-1
 RL: CAT (Catalyst use); USES (Uses)
 (ligand; asym. palladium-catalyzed annulation of benzene-1,2-diols and
 propargylic carbonates in presence of various chiral ligands for preparation
 of 2-alkylidene-3-alkyl-2,3-dihydrobenzodioxins)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 124 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:364020 CAPLUS
 DOCUMENT NUMBER: 136:369840
 TITLE: Improved method for the preparation of
 enantiomerically pure (5,5'-dichloro-6,6'-
 dimethoxybiphenyl-2,2'-diyl)-bis-(diphenylphosphine
 oxide)

INVENTOR(S): Pohl, Torsten; Prinz, Thomas; Giffels, Guido; Sirges, Wolfgram
 PATENT ASSIGNEE(S): Bayer Aktiengesellschaft, Germany
 SOURCE: Eur. Pat. Appl., 12 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1205486	A1	20020515	EP 2001-126101	20011102
EP 1205486	B1	20040211		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
DE 10056310	A1	20020516	DE 2000-10056310	20001114
AT 259371	T	20040215	AT 2001-126101	20011102
ES 2215835	T3	20041016	ES 2001-1126101	20011102
JP 2002179693	A	20020626	JP 2001-343031	20011108
US 2002058814	A1	20020516	US 2001-10176	20011113
US 6489513	B2	20021203		

PRIORITY APPLN. INFO.: DE 2000-10056310 A 20001114

OTHER SOURCE(S): CASREACT 136:369840

AB The preparation of title compound is described in four steps starting from 5-bromo-2-chloroanisole. Thus, phosphination of 5-bromo-2-chloroanisole with diphenylphosphinic chloride in presence of Mg in THF gave 82% (4-chloro-3-methoxyphenyl)diphenylphosphine oxide which on lithiation with LDA followed by iodination in THF gave 93.5% (4-chloro-2-iodo-3-methoxyphenyl)diphenylphosphine oxide. Copper-mediated coupling of (4-chloro-2-iodo-3-methoxyphenyl)diphenylphosphine oxide in PhMe followed by resolution with (+)-dibenzoyltartaric acid and reduction with HSiCl₃ in xylene

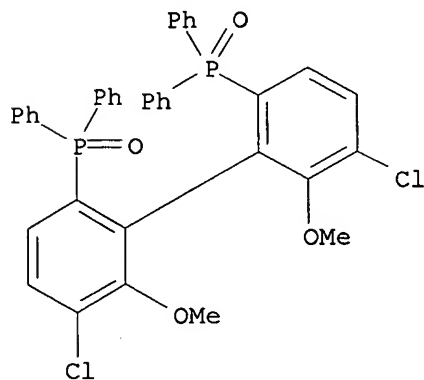
gave enantiomerically pure title compound, (5,5'-dichloro-6,6'-dimethoxybiphenyl-2,2'-diyl)-bis-(diphenylphosphine oxide).

IT 185913-96-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reduction of)

RN 185913-96-6 CAPLUS

CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



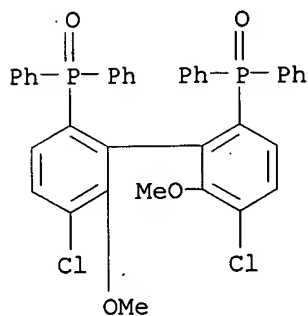
IT 185836-54-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and resolution with dibenzoyltartaric acid)

RN 185836-54-8 CAPLUS

CN Phosphine oxide, (5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

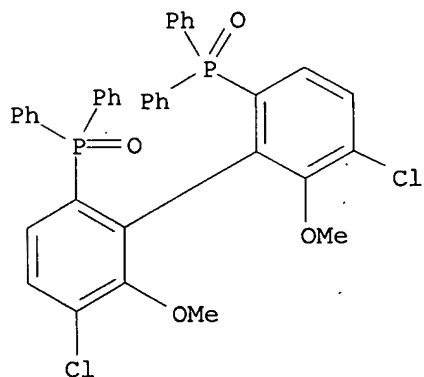


IT 185913-95-5P 185913-97-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

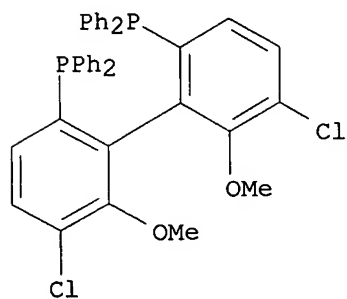
RN 185913-95-5 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

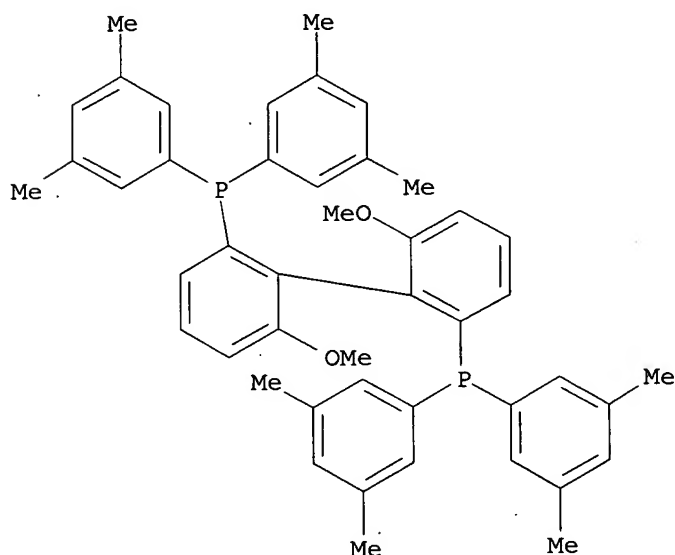


REFERENCE COUNT:

5

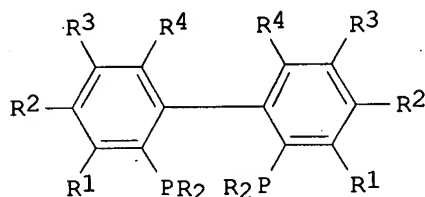
THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 125 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:319014 CAPLUS
 DOCUMENT NUMBER: 137:93384
 TITLE: Accelerating effect of asymmetric ligand in catalysis of copper(I) hydride complexes
 AUTHOR(S): Sawamura, Masaya
 CORPORATE SOURCE: Grad. Sch. Sci., Hokkaido Univ., Japan
 SOURCE: Organometallic News (2002), (1), 15
 CODEN: ORGNE8; ISSN: 0917-1274
 PUBLISHER: Kinki Kagaku Kyokai Yuki Kinzoku Bukai
 DOCUMENT TYPE: Journal; General Review
 LANGUAGE: Japanese
 AB A review on accelerating effect of an optically active bidentate phosphine ligand in asym. hydrosilylation of ketone using a phosphine-Cu(I) complex catalyst.
 IT 394248-45-4
 RL: CAT (Catalyst use); USES (Uses)
 (accelerating effect of asym. ligand in catalysis of Cu(I) hydride complexes)
 RN 394248-45-4 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)]



L3 ANSWER 126 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:183791 CAPLUS
 DOCUMENT NUMBER: 136:232396
 TITLE: Preparation of diphosphines as cocatalyst for asymmetric reactions
 INVENTOR(S): Driessen-Hoelscher, Birgit; Kralik, Joachim; Ritzkopf, Inga; Steffens, Christian; Giffels, Guido; Dreisbach, Claus; Prinz, Thomas; Lange, Walter
 PATENT ASSIGNEE(S): Bayer Ag, Germany
 SOURCE: Eur. Pat. Appl., 19 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1186609	A2	20020313	EP 2001-119799	20010829
EP 1186609	A3	20021002		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 10044793	A1	20020404	DE 2000-10044793	20000911
CA 2357261	A1	20020311	CA 2001-2357261	20010907
US 2002055653	A1	20020509	US 2001-948826	20010907
US 6462200	B2	20021008		
JP 2002179692	A	20020626	JP 2001-272410	20010907
US 2003045713	A1	20030306	US 2002-219750	20020815
US 6566298	B2	20030520		
US 2003181736	A1	20030925	US 2003-408493	20030407
US 6844462	B2	20050118		
PRIORITY APPLN. INFO.:			DE 2000-10044793	A 20000911
			US 2001-948826	A3 20010907
			US 2002-219750	A3 20020815
OTHER SOURCE(S):			CASREACT 136:232396; MARPAT 136:232396	
GI				

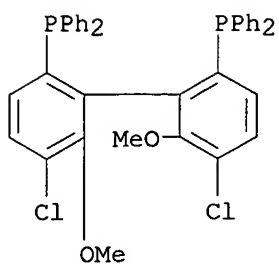


AB The preparation of diphosphines I (R = N, O, S heteroatom containing C6-14 aryl, C1-6 alkyl, C1-6 alkoxy, and/or Me3Si group containing C6-13 heteroaryl, etc.; R1-R4 = H, C1-10 alkyl, C1-10 alkoxy, F, Cl, Br etc.), useful as cocatalyst for transition metal catalyzed asym. reactions, is described. Thus, preparation of (5,5'-dichloro-6,6'-dimethoxybiphenyl-2,2'-diyl)bis(bis-3,5-dimethylphenyl-phosphine) (II) is described in several steps starting from 4-chloro-3-methoxyphenol. Reaction of II with (cyclooctadiene)Ru(η 3-methallyl)₂ gave a catalyst which was used for asym. hydrogenation of di-Me itaconate.

IT 377773-83-6P 403657-35-2P 403657-36-3P
403657-37-4P 403657-38-5P
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation and reaction with ruthenium complex in preparation of asym. hydrogenation catalyst)

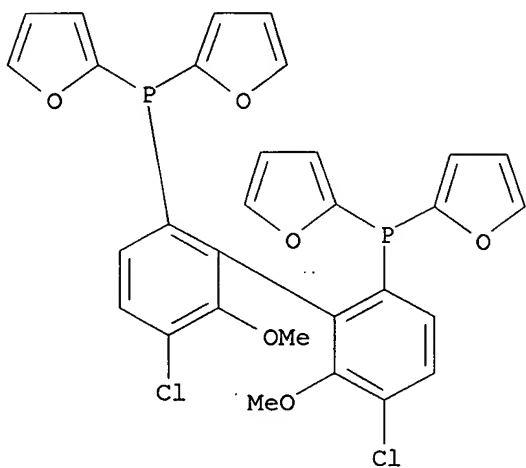
RN 377773-83-6 CAPLUS

CN Phosphine, (5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



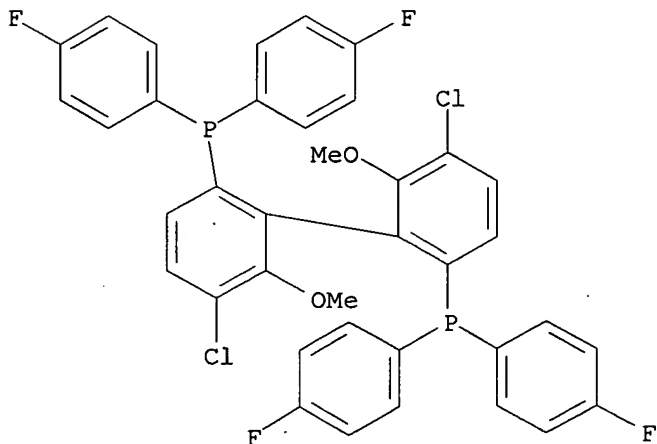
RN 403657-35-2 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl- (9CI) (CA INDEX NAME)]



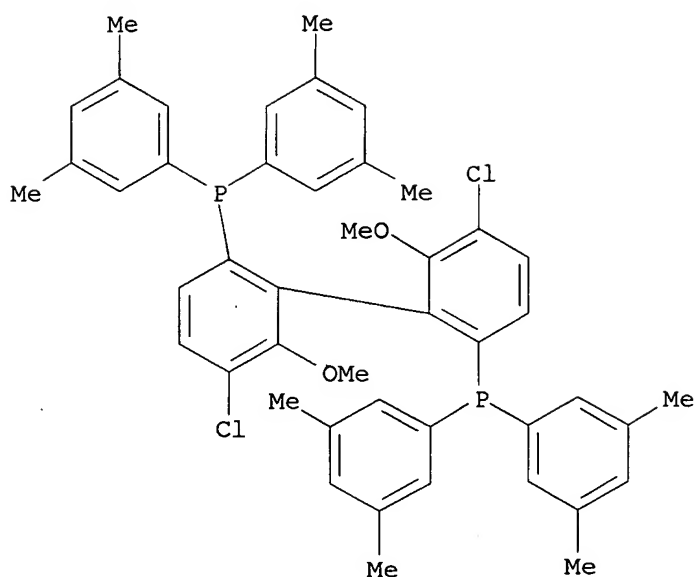
RN 403657-36-3 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-fluorophenyl)- (9CI) (CA INDEX NAME)]

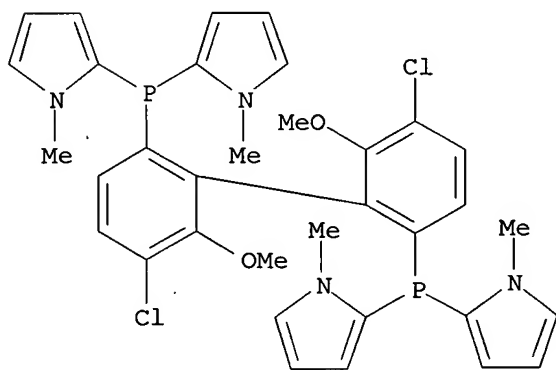


RN 403657-37-4 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)]



RN 403657-38-5 CAPLUS
 CN 1H-Pyrrole, 2,2',2'',2'''-[[[(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]diphosphinidyne]tetrakis[1-methyl-(9CI)] (CA INDEX NAME)



L3 ANSWER 127 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:123018 CAPLUS
 DOCUMENT NUMBER: 136:183935
 TITLE: Use of optically active acyloxy-substituted diphosphinobiphenyls as ligands for catalyzed asym. hydrogenation or isomerization
 INVENTOR(S): Bulliard, Michel; Laboue, Blandine; Roussiassse, Sonia
 PATENT ASSIGNEE(S): PPG-Sipsy, Fr.
 SOURCE: PCT Int. Appl., 43 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002012253	A1	20020214	WO 2001-FR2550	20010803

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

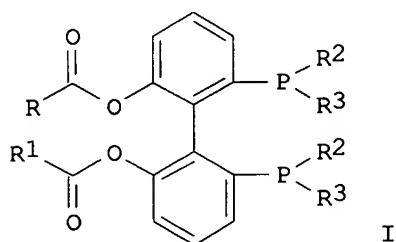
FR 2812638	A1	20020208	FR 2000-10269	20000803
FR 2812638	B1	20030425		
CA 2417836	A1	20020214	CA 2001-2417836	20010803
AU 2001082264	A5	20020218	AU 2001-82264	20010803
EP 1305324	A1	20030502	EP 2001-960868	20010803
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001012970	A	20030624	BR 2001-12970	20010803
JP 2004505985	T	20040226	JP 2002-518228	20010803
US 2003195369	A1	20031016	US 2003-356233	20030131
US 6794525	B2	20040921		

PRIORITY APPLN. INFO.:

FR 2000-10269 A 20000803
 WO 2001-FR2550 W 20010803

OTHER SOURCE(S):
 GI

CASREACT 136:183935; MARPAT 136:183935



AB The invention concerns the use of chiral diphosphines ((R)- or (S)-2,2'-diphosphino-6,6'-bis(acyloxy)-1,1'-biphenyls, I; e.g. (R)-2,2'-bis(diphenylphosphino)-6,6'-diacetoxy-1,1'-biphenyl (1)) as optically active ligands for preparing diphosphine-metal complexes. The invention also concerns diphosphine-metal complexes (e.g. $MxHyXzL2(Sv)p$; $M = Ru, Rh, Ir$; $X = Cl, Br, F, I$; $Sv =$ tertiary amine, ketone, ether; $L = I$; $y = 0, 1$; $x = 1, 2$; $z = 1, 4$; $p = 0, 1$; e.g. $(RuBr2L)2 \cdot \text{acetone}$, $L = 1$) and asym. catalysis methods using said complexes. More particularly, the invention concerns the use of said diphosphine-metal complexes in asym. hydrogenation or isomerization processes for the synthesis of organic products with desired chirality. In I: R and R1, identical or different, represent C1-10 saturated or not alkyl, C3-9 saturated or not cycloalkyl, C5-10 aryl, said groups being optionally substituted by halogen, hydroxy, C1-5 alkoxy, amino (NH_2 , NHR_4 , $N(R_4)_2$), sulfinyl, sulfonyl, with R_4 representing alkyl, alkoxy or alkylcarbonyl, said groups alkyl, cycloalkyl, aryl including optionally one or several heteroatoms (O, N, S, Si), or also R and R1, together, represent C2-6 saturated or not substituted alkyl, C3-9 saturated or not cycloalkyl, C5-10 aryl, said groups cycloalkyl and aryl being optionally substituted by C1-5 alkyl, halogen, hydroxy, C1-5 alkoxy, amino (NH_2 , NHR_4 , $NH(R_4)_2$), sulfinyl, sulfonyl. R_2 and R_3 , identical or different, represent C3-8 saturated or not cycloalkyl, C6-10 aryl, said groups being optionally substituted by halogen, hydroxy, C1-5 alkoxy, amino (NH_2 , NHR_4 , $N(R_4)_2$), sulfinyl, sulfonyl, said groups cycloalkyl, aryl including optionally one or several heteroatoms (O, N, S, Si), or also, R_2 and R_3 forming together C4-8 saturated or not carbocycle,

C6-10 aryl, said groups being optionally substituted by halogen, hydroxy, C1-5 alkoxy, amino (NH₂, NHR₄, N(R₄)₂), sulfinyl, sulfonyl, said carbocycle, aryl including optionally one or several heteroatoms (O, N, S, Si). For example, Et 4-chloroacetoacetate was asym. hydrogenated in quant. yield with 98.4 %ee using [RuLBr₂] (L = (R)-2,2'-bis(diphenylphosphino)-6,6'-bis(isobutanoyloxy)-1,1'-biphenyl; substrate:catalyst = 4000:1) in EtOH at 75°.

IT 398127-98-5P 398127-99-6P 398128-00-2P

398128-01-3P 398128-02-4P 398128-03-5P

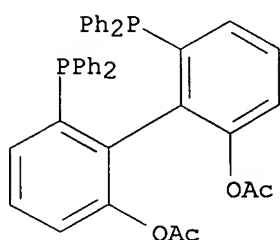
398128-04-6P 398128-05-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and complexation with Group VIII metals for use as asym. catalysts for hydrogenation and isomerization)

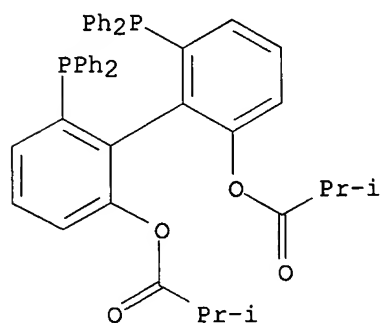
RN 398127-98-5 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, diacetate, (1R)-(9CI) (CA INDEX NAME)



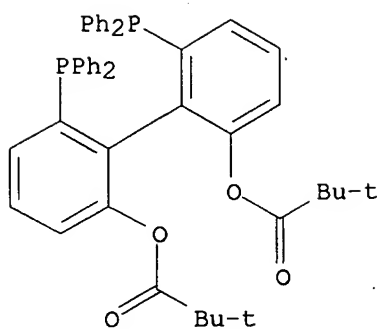
RN 398127-99-6 CAPLUS

CN Propanoic acid, 2-methyl-, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)



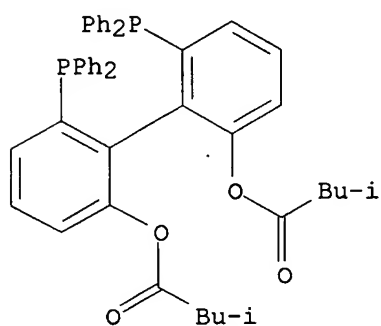
RN 398128-00-2 CAPLUS

CN Propanoic acid, 2,2-dimethyl-, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)



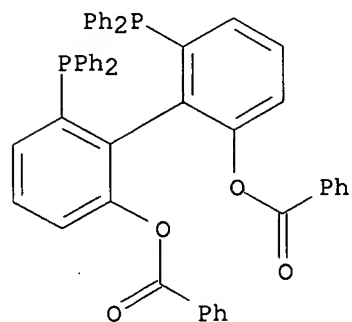
RN 398128-01-3 CAPLUS

CN Butanoic acid, 3-methyl-, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)



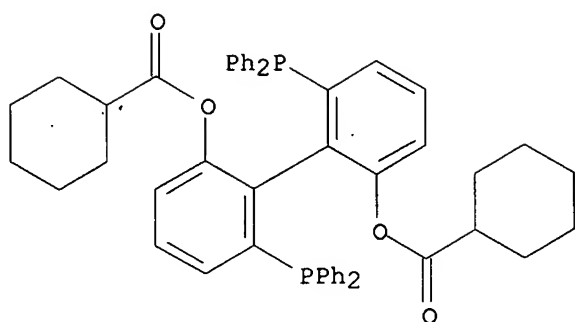
RN 398128-02-4 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, dibenzoate (ester), (1R)- (9CI) (CA INDEX NAME)

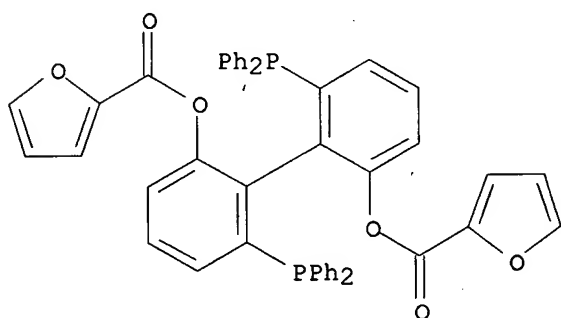


RN 398128-03-5 CAPLUS

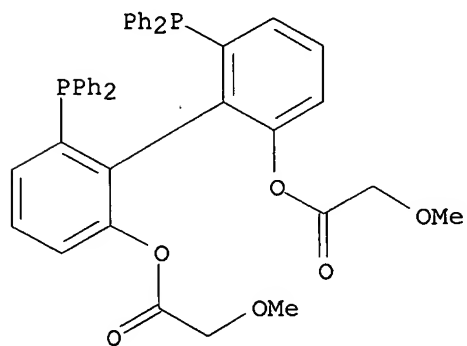
CN Cyclohexanecarboxylic acid, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)



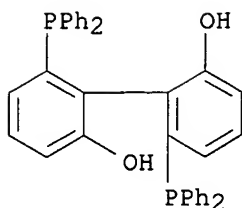
RN 398128-04-6 CAPLUS
 CN 2-Furancarboxylic acid, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-
 2,2'-diyl ester (9CI) (CA INDEX NAME)



RN 398128-05-7 CAPLUS
 CN Acetic acid, methoxy-, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-
 2,2'-diyl ester (9CI) (CA INDEX NAME)

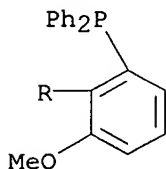
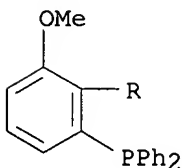


IT 151395-61-8P, (R)-2,2'-Bis(diphenylphosphino)-6,6'-dihydroxy-1,1'-
 biphenyl
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and condensations with acyl chlorides)
 RN 151395-61-8 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX
 NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

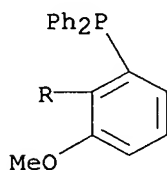
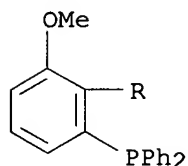
L3 ANSWER 128 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:120928 CAPLUS
 DOCUMENT NUMBER: 137:5913
 TITLE: Palladium-catalyzed asymmetric alkylation of 2,3-alkadienyl phosphates. Synthesis of optically active 2-(2,3-alkadienyl)malonates
 AUTHOR(S): Imada, Yasushi; Ueno, Katsuya; Kutsuwa, Koji; Murahashi, Shun-Ichi
 CORPORATE SOURCE: Department of Chemistry, Graduate School of Engineering Science, Osaka University, Osaka, 560-8531, Japan
 SOURCE: Chemistry Letters (2002), (2), 140-141
 CODEN: CMLTAG; ISSN: 0366-7022
 PUBLISHER: Chemical Society of Japan
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 137:5913
 AB Asym. alkylation of 2,3-alkadienyl phosphates with soft carbon nucleophiles proceeds efficiently in the presence of palladium complex catalysts bearing MeOBIPHEP or BINAP ligands to give optically active functionalized allenes with up to 90% ee.
 IT 133545-16-1
 RL: CAT (Catalyst use); USES (Uses)
 (palladium-catalyzed asym. alkylation of 2,3-alkadienyl phosphates in preparation of optically active 2-(2,3-alkadienyl)malonates)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



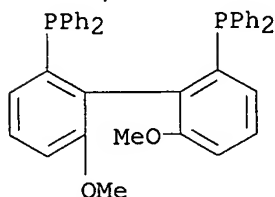
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 129 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:96184 CAPLUS
 DOCUMENT NUMBER: 136:294706
 TITLE: Electron-Poor Benzonitriles as Labile, Stabilizing
 Ligands in Asymmetric Catalysis
 AUTHOR(S): Becker, Jennifer J.; Van Orden, Lori J.; White, Peter
 S.; Gagne, Michel R.
 CORPORATE SOURCE: Department of Chemistry CB #3290, University of North
 Carolina, Chapel Hill, NC, 27599-3290, USA
 SOURCE: Organic Letters (2002), 4(5), 727-730
 CODEN: ORLEF7; ISSN: 1523-7060
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 136:294706
 AB A chiral palladium catalyst, [(S)-(MeObiphep)Pd(NCAr)₂(SbF₆)₂, (S)-I], has
 been developed for a variety of asym. transformations. (S)-I is
 bench-stable and has activity comparable to that of the nitrile free Lewis
 acid catalyst for Diels-Alder, hetero-Diels-Alder, and glyoxylate-ene
 reactions.
 IT 133545-17-2 133577-92-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (electron-poor benzonitriles as labile, stabilizing ligands in asym.
 catalysis)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)



RN 133577-92-1 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
 (CA INDEX NAME)

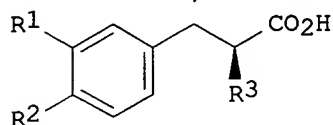


REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

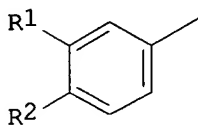
L3 ANSWER 130 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:31391 CAPLUS
 DOCUMENT NUMBER: 136:85662
 TITLE: Preparation of (R)-2-alkyl-3-phenylpropionic acids
 INVENTOR(S): Herold, Peter; Stutz, Stefan
 PATENT ASSIGNEE(S): Speedel Pharma A.-G., Switz.
 SOURCE: PCT Int. Appl., 36 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002002500	A1	20020110	WO 2001-CH397	20010626
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2414839	A1	20020110	CA 2001-2414839	20010626
AU 2001073761	A5	20020114	AU 2001-73761	20010626
EP 1296927	A1	20030402	EP 2001-940045	20010626
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001012146	A	20030506	BR 2001-12146	20010626
JP 2004502663	T	20040129	JP 2002-507758	20010626
US 2003139625	A1	20030724	US 2003-312855	20030102
US 6683206	B2	20040127		
PRIORITY APPLN. INFO.:			CH 2000-1317	A 20000703
			WO 2001-CH397	W 20010626
OTHER SOURCE(S):			CASREACT 136:85662; MARPAT 136:85662	
GI				



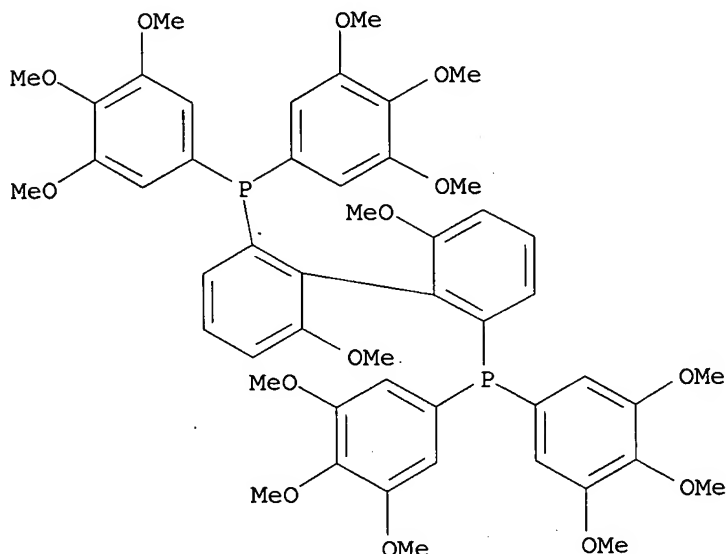
I



II

AB Compds. of formula I, wherein R1 and R2 are, independently of one another, H, C1-C6 alkyl, C1-C6 halogen alkyl, C1-C6 alkoxy, C1-C6 alkoxy-C1-C6 alkyl, or C1-C6 alkoxy-C1-C6 alkyloxy, and R3 is C1-C6 alkyl, are obtainable in high yields by stereoselective addition of R3-substituted propionic acid esters to R1- and R3-substituted benzaldehydes of formula RCHO to form corresponding 3-R-3-hydroxy-2-R3-propionic acid esters, conversion of the OH group to a leaving group, subsequent regioselective elimination to form 3-R-2-R3-propenoic acid esters, and their hydrolysis to form corresponding propenoic carboxylic acids and their enantioselective hydrogenation, wherein R is II. Thus, Et isovalerate and 4-methoxy-3-(3-methoxypropoxy)benzaldehyde were reacted in the presence of diisopropylamine and hexyl lithium, reacted with acetic anhydride, and potassium tert-butyrate was added to give a propenoic acid ester derivative, which was hydrogenated with [Rh(NBD)2]BF4 and (Rc,Sp)-1-[1-[Bis-(bis-3,5-trifluoromethylphenyl)phosphino]ethyl]-2-(2-diphenylphosphinophenyl)ferroc

ene (preparation given) to give a
 (R)-3-[4'-(CH₃O-3'-(CH₃OCH₂CH₂CH₂O)-phen-1-yl)-
 2-isopropylpropionic acid.
 IT 256390-47-3
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst; preparation of (R)-2-alkyl-3-phenylpropionic acids)
 RN 256390-47-3 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,4,5-
 trimethoxyphenyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 131 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:31379 CAPLUS
 DOCUMENT NUMBER: 136:85606
 TITLE: Process for the preparation of (R)-2-alkyl-3-phenyl-1-
 propanols
 INVENTOR(S): Herold, Peter; Stutz, Stefan; Spindler, Felix
 PATENT ASSIGNEE(S): Speedel Pharma Ag, Switz.
 SOURCE: PCT Int. Appl., 34 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002002487	A1	20020110	WO 2001-CH398	20010626
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

CA 2414844	A1	20020110	CA 2001-2414844	20010626
EP 1296912	A1	20030402	EP 2001-940046	20010626
EP 1296912	B1	20060125		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001012128	A	20030513	BR 2001-12128	20010626
JP 2004502656	T	20040129	JP 2002-507746	20010626
AT 316518	T	20060215	AT 2001-940046	20010626
TW 575537	B	20040211	TW 2001-90115928	20010629
US 2004092766	A1	20040513	US 2003-312992	20030103
US 6881868	B2	20050419		

PRIORITY APPLN. INFO.: CH 2000-1318 A 20000703
WO 2001-CH398 W 20010626

OTHER SOURCE(S): CASREACT 136:85606; MARPAT 136:85606

AB A process for the preparation of (R)-3(R1)-4(R2)-C6H3-CH2-CH(R3)CH2OH is disclosed [R1-2 = H, alkyl, haloalkyl, alkoxy, alkoxy-alkyl, alkoxy-alkoxy; R3 = alkyl; I]. The multi-step process is illustrated by the addition of the lithium-enolate of Et isovalerate to 4-methoxy-3-(3-methoxypropoxy)benzaldehyde (LDA, THF, -20°C, 40 min) resulting in the carbinol isolated in 72% yield. Acylation/elimination (THF, DMAP, Ac2O, 0°C; THF, KOBu-t, -2°C) afforded the α,β -unsatd. ester in 93% yield. The ester was reduced to the allylic alc. (PhMe, DIBAL, -20°C, 1 h) and hydrogenated (PhMe, [Rh(norbornadiene)Cl]2, (1R)-(4,4',5,5',6,6'-hexamethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine], 20 bar H2, 30°C, 18 h) to I (R1 = MeO(CH2)3O, R2 = MeO, R3 = i-Pr) in 92% yield for 2 steps with 95% ee.

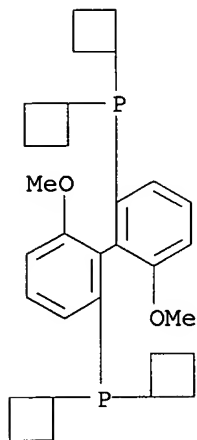
IT 150971-49-6

RL: CAT (Catalyst use); USES (Uses)

(process for the preparation of (R)-2-alkyl-3-phenyl-1-propanols)

RN 150971-49-6 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclobutyl-(9CI) (CA INDEX NAME)



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 132 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:912204 CAPLUS

DOCUMENT NUMBER: 136:150965

TITLE: Ligand-Accelerated, Copper-Catalyzed Asymmetric Hydrosilylations of Aryl Ketones

AUTHOR(S): Lipshutz, Bruce H.; Noson, Kevin; Chrisman, Will

CORPORATE SOURCE: Department of Chemistry Biochemistry, University of

SOURCE:

California, Santa Barbara, CA, 93106, USA
Journal of the American Chemical Society (2001),
123(51), 12917-12918

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

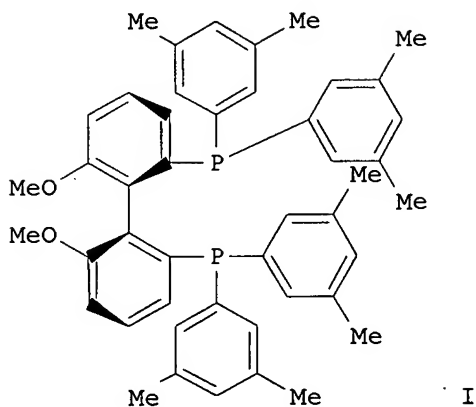
LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 136:150965

GI



AB A reagent prepared in situ from catalytic amts. of CuH and the ligand I catalyzed the asym. hydrosilylation of aromatic ketones by polymethylhydrosiloxane to give the alcs. in high ee.

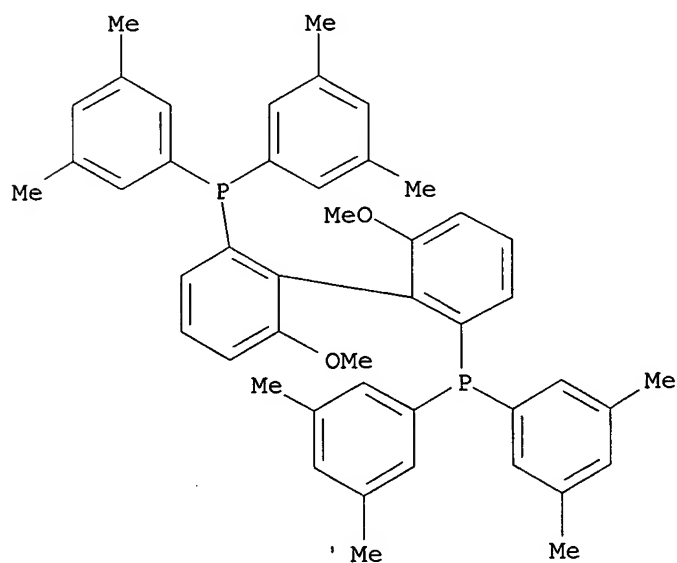
IT 394248-45-4

RL: CAT (Catalyst use); USES (Uses)

(copper-catalyzed asym. hydrosilylation of aromatic ketones by polymethylhydrosiloxane)

RN 394248-45-4 CAPLUS

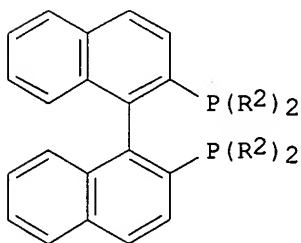
CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)]



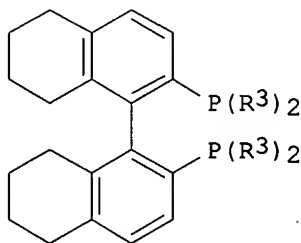
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 133 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2001:885409 CAPLUS
 DOCUMENT NUMBER: 136:37900
 TITLE: Method for the preparation of optically active trimethylactic acid and its esters
 INVENTOR(S): Sirges, Wolfram; Dreisbach, Claus
 PATENT ASSIGNEE(S): Bayer A.-G., Germany
 SOURCE: Eur. Pat. Appl., 19 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

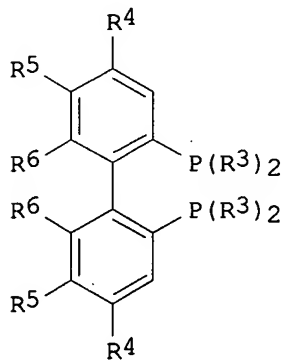
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1160237	A2	20011205	EP 2001-111927	20010518
EP 1160237	A3	20031112		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 10027154	A1	20011213	DE 2000-10027154	20000531
US 2002035271	A1	20020321	US 2001-864906	20010524
US 6583312	B2	20030624		
JP 2002003441	A	20020109	JP 2001-160426	20010529
PRIORITY APPLN. INFO.:			DE 2000-10027154	A 20000531
OTHER SOURCE(S):	CASREACT 136:37900; MARPAT 136:37900			
GI				



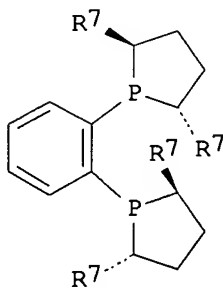
III



IV



V



VI

AB A procedure for the preparation of optically active trimethylactic acid and its esters, Me₃CCH(OH)CO₂R₁ [R₁ = H, (un)substituted C₁-20-alkyl (especially Me,

Et, CH₂Et, CHMe₂, Bu, Me₂CHCH₂, EtCHMe, pentyl, neopentyl, isopentyl), C₆-10-aryl (especially Ph or naphthyl), C₇-15-aralkyl (especially CH₂Ph), C₂-12-heteroaryl (especially 2-, 3-furyl, 2-, 3-pyrrolyl); (I)], through enantioselective hydrogenation of trimethylpyrrolacemic acid and its esters, Me₃CC(:O)CO₂R₁ (II), in the presence of catalysts (in particular, Ru, Rh and Ir complexes), is characterized by the rare earth metal complex catalyst containing an optically active bisphosphine ligand, e.g., III (R₂ = Ph, C₆H₄Me-3, C₆H₄Me-4, C₆H₃Me₂-3,5, C₆H₄OMe-4, 3,5-dimethyl-4-methoxyphenyl, cyclohexyl, cyclopentyl), IV (R₃ = Ph, C₆H₄Me-4, C₆H₃Me₂-3,5, C₆H₄OMe-4, 3,5-dimethyl-4-methoxyphenyl, cyclohexyl), V (R₃ = Ph, C₆H₄Me-4, C₆H₃Me₂-3,5, C₆H₄OMe-4, 3,5-dimethyl-4-methoxyphenyl, cyclohexyl; R₄ = H, Me, OMe; R₅ = H, Me, OMe, Cl; R₆ = Me, OMe, CF₃) and VI (R₇ = Me, Et, CH₂Et, CHMe₂). Thus, I (R₁ = Me), was prepared quant. (97.9% enantiomeric excess), via hydrogenation of II (R₁ = Me) in MeOH/MeCOMe containing catalytic bis(2-methylallyl)(1,5-cyclooctadiene)ruthenium(III) and (R)-(+)-2,2μ-bis(diphenylphosphino)-1,1μ-binaphthyl.

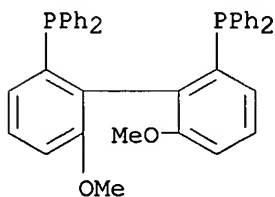
IT 133577-92-1D, (6,6'-Dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine), chiral 133577-93-2D, (5,5',6,6'-Tetramethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine), chiral 133577-94-3D, (6,6'-Dimethoxybiphenyl-2,2'-diyl)bis[di(p-tolyl)phosphine], chiral 185913-97-7, (+)-(5,5'-Dichloro-6,6'-dimethoxybiphenyl-2,2'-yl)bis(diphenylphosphine) 377773-83-6D, (5,5'-Dichloro-6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine), chiral

RL: CAT (Catalyst use); USES (Uses)

(preparation of chiral trimethylactic acid and its esters via enantioselective catalytic hydrogenation of trimethylpyrrolacemic acid and its esters)

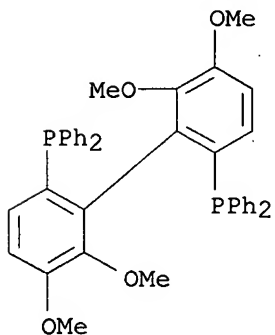
RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



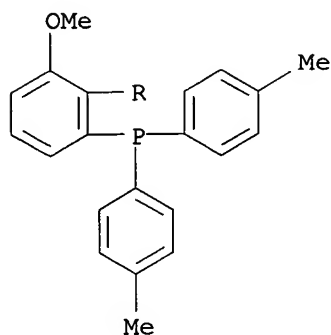
RN 133577-93-2 CAPLUS

CN Phosphine, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

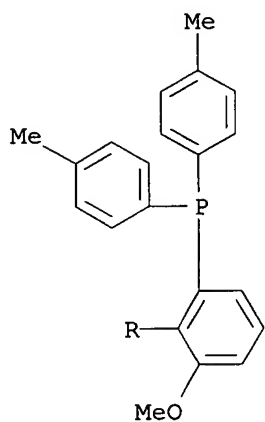


RN 133577-94-3 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

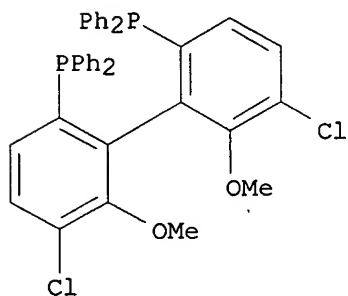
PAGE 1-A



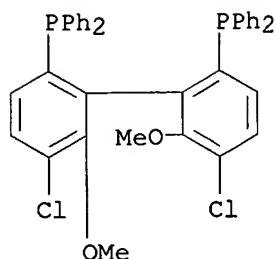
PAGE 2-A



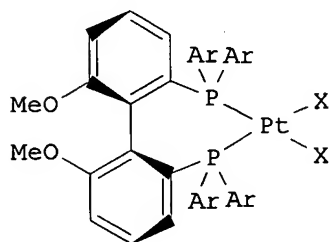
RN 185913-97-7 CAPLUS
 CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 377773-83-6 CAPLUS
 CN Phosphine, (5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

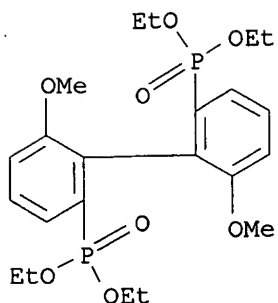


L3 ANSWER 134 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2001:880027 CAPLUS
 DOCUMENT NUMBER: 136:166979
 TITLE: Disparate Roles of Chiral Ligands and Molecularly Imprinted Cavities in Asymmetric Catalysis and Chiral Poisoning
 AUTHOR(S): Koh, Jeong Hwan; Larsen, Andrew O.; White, Peter S.; Gagne, Michel R.
 CORPORATE SOURCE: Department of Chemistry, University of North Carolina, Chapel Hill, NC, 27599-3290, USA
 SOURCE: Organometallics (2002), 21(1), 7-9
 CODEN: ORGND7; ISSN: 0276-7333
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 136:166979
 GI

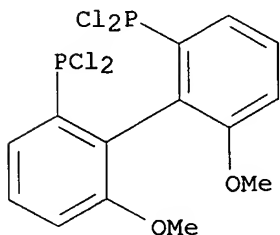


I

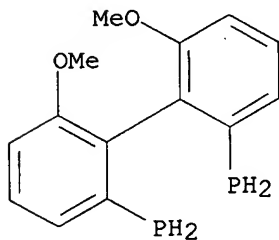
AB The activation of molecularly imprinted metal complexes generated Lewis acid catalysts, prepared via copolymerization of metallomonomers (I; X = Cl, X2 = O,O-dideprotonated (S)-, (R)-BINOL; Ar = p-C6H4C(CH3)=CH2) with EDMA (ethylene dimethacrylate), for the ene reaction, each of which contains a chiral diphosphine ligand and a chiral BINOL-shaped cavity. Poisoning experiments with (R)- and (S)-BINAM (where (R)- and (S)-BINAM = (R)- and (S)-1,1'-binaphthyl-2,2'-diamine, resp.) indicated that while the chiral cavity can differentiate the chiral poisons, it is the chiral diphosphine ligand which controls the enantioselectivity of the ene product.
 IT 145265-38-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (lithium aluminum hydride reduction of)
 RN 145265-38-9 CAPLUS
 CN Phosphonic acid, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-, tetraethyl ester (9CI) (CA INDEX NAME)



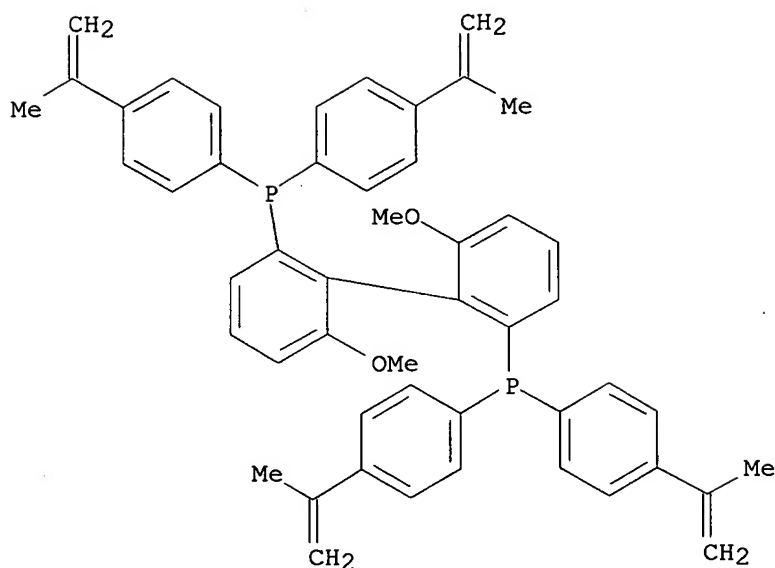
IT 397862-54-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and Grignard reaction with (isopropenylphenyl)magnesium
 chloride)
 RN 397862-54-3 CAPLUS
 CN Phosphonous dichloride, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-
 (9CI) (CA INDEX NAME)



IT 397862-53-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and chlorination of)
 RN 397862-53-2 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis- (9CI) (CA
 INDEX NAME)



IT 397862-55-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and reaction with platinum cyclooctadiene chloride complex)
 RN 397862-55-4 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[4-(1-
 methylethenyl)phenyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 135 OF 212. CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:735912 CAPLUS

DOCUMENT NUMBER: 136:53819

TITLE: A Simple Resolution Procedure Using the Staudinger Reaction for the Preparation of P-Stereogenic Phosphine Oxides

AUTHOR(S): Andersen, Neil G.; Ramsden, Philip D.; Che, Daqing; Parvez, Masood; Keay, Brian A.

CORPORATE SOURCE: Department of Chemistry, University of Calgary, Calgary, AB, T2N 1N4, Can.

SOURCE: Journal of Organic Chemistry (2001), 66(22), 7478-7486
CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 136:53819

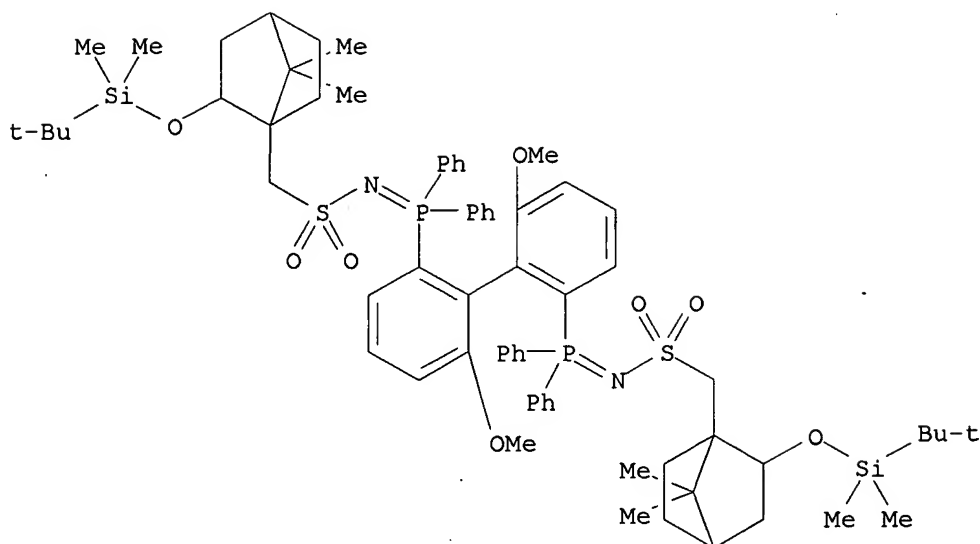
AB The resolution of a variety of (\pm)-P-stereogenic phosphines is achieved by exploiting the Staudinger reaction of a (\pm)-phosphine with enantiopure (1S,2R)-O-(tert-butyldimethylsilyl)isobornyl-10-sulfonyl azide. The resulting mixts. of diastereomeric phosphinimines are generally separable by fractional crystallization or flash chromatog. Subsequent acid-catalyzed hydrolysis provides the corresponding optically pure phosphine oxides in high yields. The crystal and mol. structures of (RP)-[(1S,2R)-O-(tert-butyldimethylsilyl)isobornyl-10-sulfonamidyl]isopropylmethylphenylphosphinimine were determined by x-ray crystallog.

IT 382607-90-1P

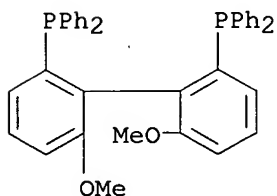
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (preparation by Staudinger reaction and separation from isomer and other coproducts)

RN 382607-90-1 CAPLUS

CN Bicyclo[2.2.1]heptane-1-methanesulfonamide, N,N'-[[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis(diphenylphosphoranylidene)]bis[2-[[[(1,1-dimethylethyl)dimethylsilyl]oxy]-7,7-dimethyl-, (1S,1'S,2R,2'R,4R,4'R)- (9CI) (CA INDEX NAME)



IT 133577-92-1, (±)-MeOBIPHEP
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent) (resolution using Staudinger reaction)
 RN 133577-92-1 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

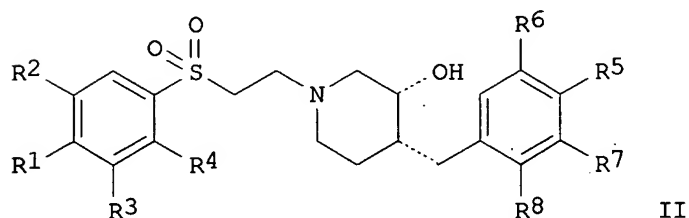
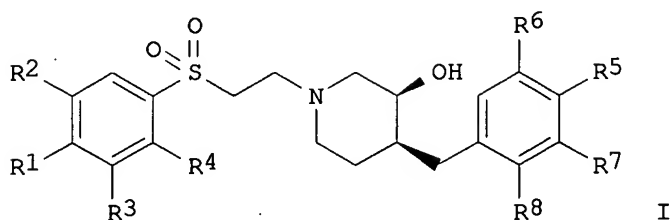
L3 ANSWER 136 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2001:709735 CAPLUS
 DOCUMENT NUMBER: 135:272882
 TITLE: Preparation of piperidine and piperazine compounds for use in the treatment of Alzheimer
 INVENTOR(S): Cramer, Yvo; Scalone, Michelangelo; Waldmeier, Pius; Widmer, Ulrich
 PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 34 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1136475	A1	20010926	EP 2001-105498	20010315
EP 1136475	B1	20040818		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, SI, LT, LV, FI, RO

US 2001037026	A1	20011101	US 2001-809691	20010315
US 6605723	B2	20030812		
AT 273953	T	20040915	AT 2001-105498	20010315
ES 2225330	T3	20050316	ES 2001-1105498	20010315
CA 2341010	A1	20010922	CA 2001-2341010	20010319
IN 193610	A1	20040724	IN 2001-MA253	20010320
JP 2001270865	A	20011002	JP 2001-82991	20010322
JP 3598277	B2	20041208		
CN 1315319	A	20011003	CN 2001-111877	20010322
PRIORITY APPLN. INFO.:			EP 2000-106210	A 20000322
OTHER SOURCE(S):	MARPAT 135:272882			
GI				

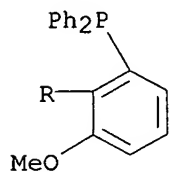
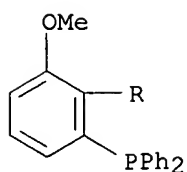


AB The title compds. I and II [R1-R4 = H, halo, hydroxy, amino, nitro, lower alkylsulfonylamido, acetamido; R5-R8 = H, lower alkyl, halogen, trifluoromethyl, lower alkoxy] were prepared I and II are NMDA (N-methyl-D-aspartate)-receptor-subtype selective blockers (no data), which have a key function in modulating neuronal activity and plasticity which makes them key players in mediating processes underlying development of CNS including learning and memory formation and function. E.g., (3S,4S)-4-benzylpiperidin-3-ol was prepared

IT 133545-17-2 150971-37-2 167709-31-1
 362634-22-8 362634-28-4 362634-30-8
 362634-32-0 362634-34-2 362634-37-5
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of piperidine and piperazine compds. for use in the treatment of Alzheimer)

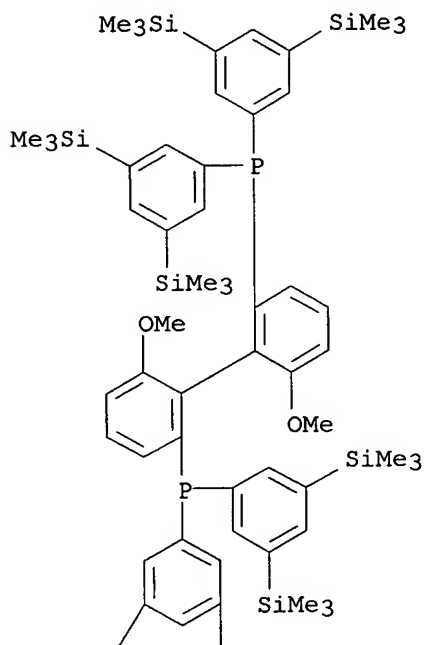
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)

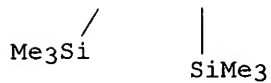


RN 150971-37-2 CAPLUS
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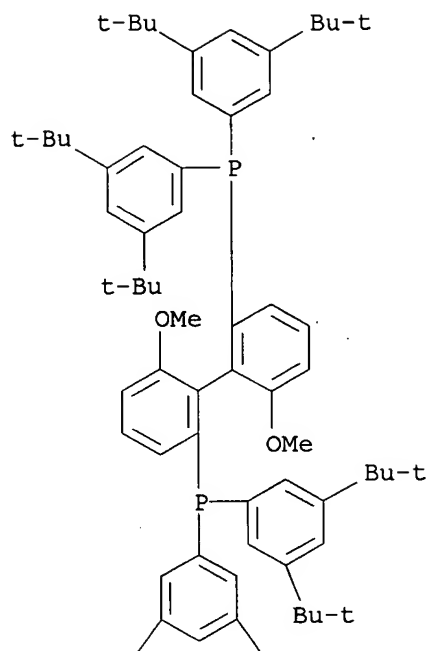
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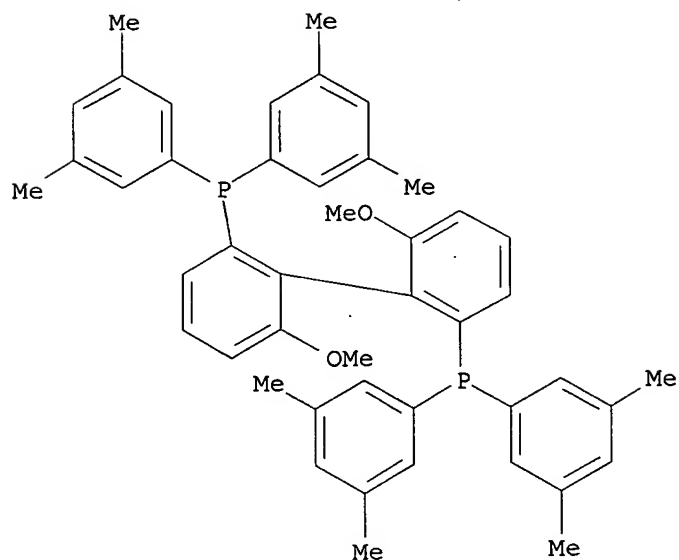
PAGE 2-A



RN 167709-31-1 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis(3,5-bis(1,1-dimethylethyl)phenyl)- (CA INDEX NAME)]

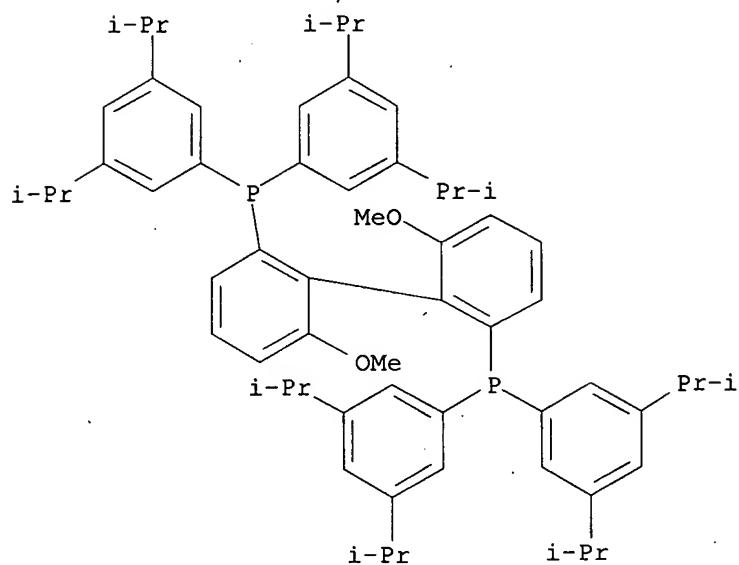


RN 362634-22-8 CAPLUS
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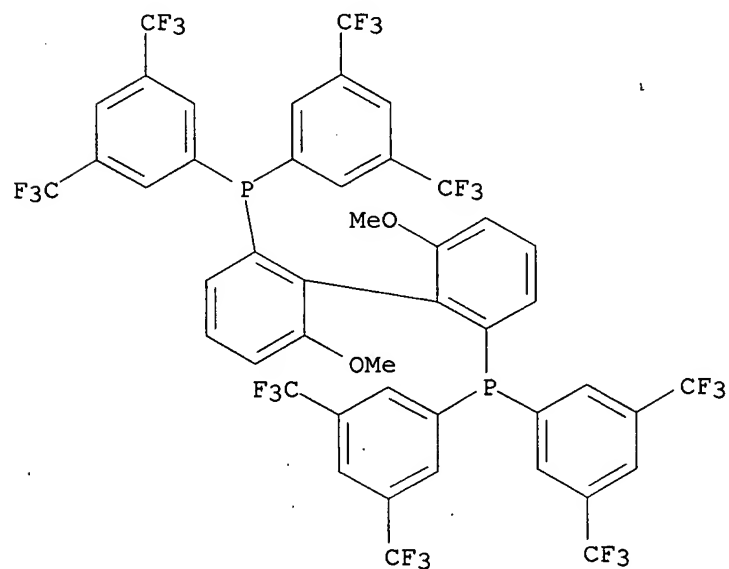
RN 362634-28-4 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



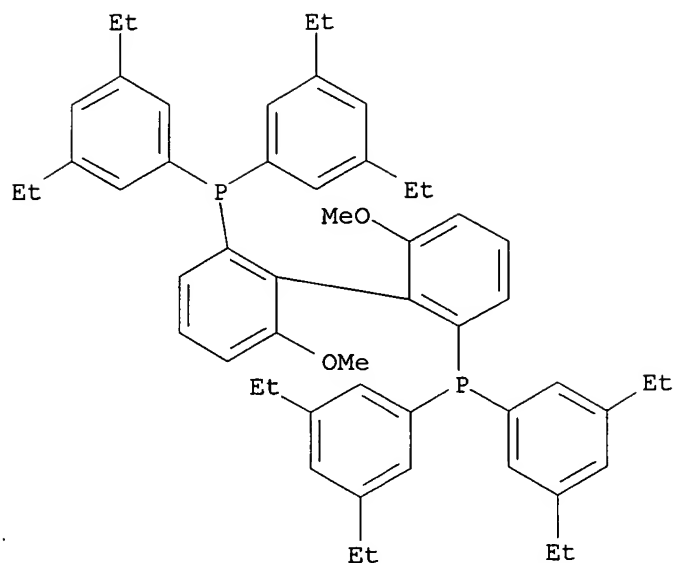
RN 362634-30-8 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

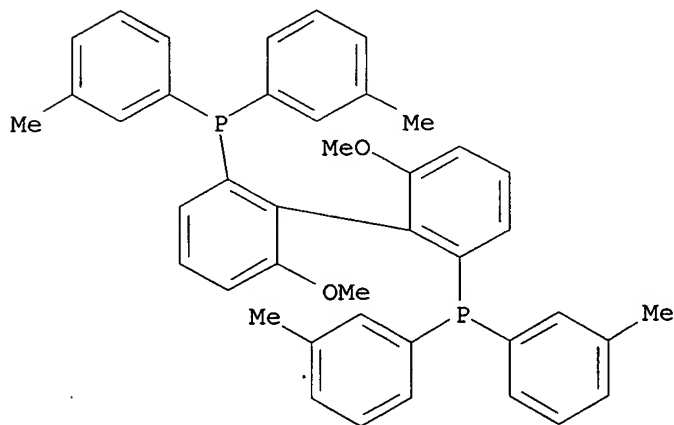


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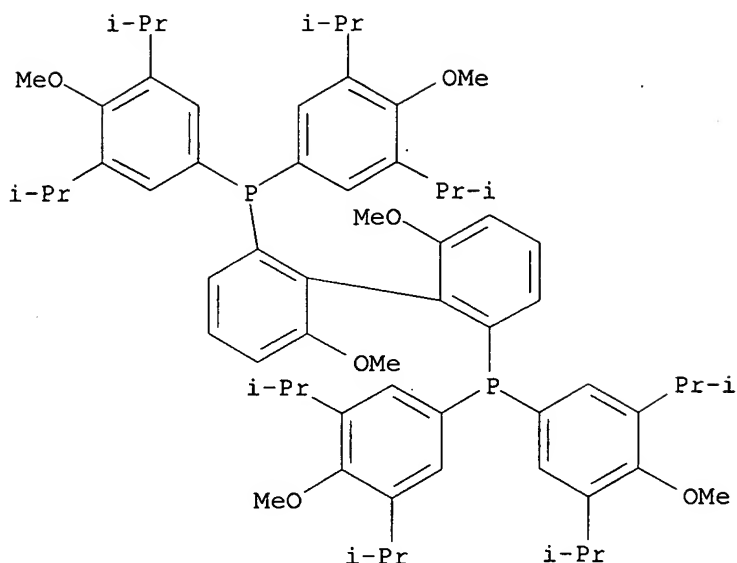
CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-diethylphenyl)- (9CI) (CA INDEX NAME)



RN 362634-34-2 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3-methylphenyl)- (9CI) (CA INDEX NAME)]



RN 362634-37-5 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[4-methoxy-3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)]



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 137 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:642720 CAPLUS

DOCUMENT NUMBER: 136:6122

TITLE: Binap and MeO-Biphep complexes of Ru(II). Dicationic ligands as 6e donors. Unexpected cyclometallation in connection with P-C bond breaking

AUTHOR(S): den Reijer, Carolien J.; Dotta, Pascal; Pregosin, Paul S.; Albinati, Alberto

CORPORATE SOURCE: Laboratory of Inorganic Chemistry, ETH-Zentrum, Zurich, CH-8092, Switz.

SOURCE: Canadian Journal of Chemistry (2001), 79(5/6), 693-704
CODEN: CJCHAG; ISSN: 0008-4042

PUBLISHER: National Research Council of Canada

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 136:6122

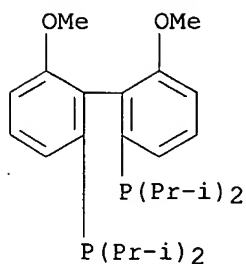
AB Cationic and dicationic Ru-arene complexes with Binap (1a; rac-2,2'-bis(diphenylphosphino)-1,1'-binaphthyl) and MeO-Biphep (1b; (S)-2,2'-bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-biphenyl) were prepared. ¹³C NMR studies are useful in connection with recognizing the 6e-bonding mode of 1a and 1b in the dications [Ru(1a or 1b)(η^6 -arene)](SbF₆)₂ (8, 9). Reaction of 8, 9 with: (a) (Bu₄N)(Ph₃SiF₂) leads to a cyclometalated product, (2'-diphenylphosphino-1,1'-binaphthalen-2-yl)(arene)(fluorodiphenylphosphine)ruthenium hexafluoroantimonate, which arises via P-C bond breaking and P-F bond making; (b) MeOH provides a straightforward synthesis of the corresponding hydrides. ¹³C NMR p-cymene chemical shifts are reported. The crystal and mol. structures of [RuCl(Binap)(p-cymene)]Cl were determined by x-ray crystallog.

IT 150971-45-2, (R)-2,2'-Bis(diisopropylphosphino)-6,6'-dimethoxy-1,1'-biphenyl

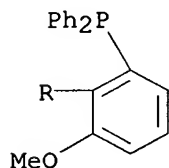
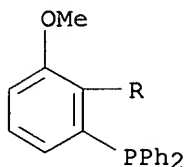
RL: RCT (Reactant); RACT (Reactant or reagent)
(coordinative substitution with ruthenium chloro arene complex)

RN 150971-45-2 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)]



IT 133545-17-2, (S)-2,2'-Bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-biphenyl
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (coordinative substitution with ruthenium chloro arene complexes)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)]



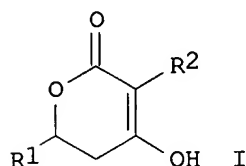
REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 138 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2001:586497 CAPLUS
 DOCUMENT NUMBER: 135:166783
 TITLE: Preparation of 3,6-dialkyl-5,6-dihydro-4-hydroxy-2H-pyran-2-ones
 INVENTOR(S): Harrington, Peter John; Hodges, Lewis M.; Puentener, Kurt; Scalone, Michelangelo
 PATENT ASSIGNEE(S): F. Hoffmann-La Roche, A.-G., Switz.
 SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001220387	A	20010814	JP 2001-27688	20010205
US 6552204	B1	20030422	US 2000-668799	20000922
EP 1127886	A1	20010829	EP 2001-101636	20010126
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

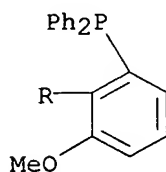
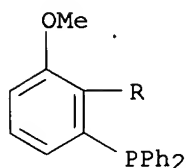
AT 239716	T	20030515	AT 2001-101636	20010126
ES 2197128	T3	20040101	ES 2001-1101636	20010126
CA 2333192	A1	20010804	CA 2001-2333192	20010131
CA 2333192	C	20070123		
IN 2001MA00084	A	20050304	IN 2001-MA84	20010131
CN 1319596	A	20011031	CN 2001-111916	20010202
JP 2004346078	A	20041209	JP 2004-183222	20040622
PRIORITY APPLN. INFO.:			US 2000-180578P	P 20000204
			JP 2001-27688	A3 20010205
OTHER SOURCE(S):		CASREACT 135:166783; MARPAT 135:166783		
GI				



AB Title compds. I (R1 = C1-20 alkyl; R2 = H, C1-10 alkyl) are prepared by reaction of R1CH(OR3)CH2COX (R1 = same as I; R3 = OH-protecting group; X = halide) with R2CH:C(OR4)OR5 (R2 = same as I; R4, R5 = C1-6 alkyl, C5-20 aryl, C6-20 arylalkyl, SiR8R9R10; R8-R10 = C1-6 alkyl, Ph), deprotection of R1CH(OR3)CH:C(OR6)CHR2CO2R5 (R1-R3, R5 = same as above; R6 = H, corresponding group to R4), and treatment with acids. Thus, (R)-3-(trimethylsiloxy)tetradecanoyl chloride was reacted with 42.42 g 1-methoxy-1-trimethylsiloxy-1-octene in THF in the presence of Et3N at -5° for 16 h, treated with CaCO3 in MeOH at 0° for 17 h, and cyclized in the presence of HCl in MeOH at 0° for 4 h to give 41.30 g (R)-3-hexyl-4-hydroxy-6-undecyl-5,6-dihydropyran-2-one.

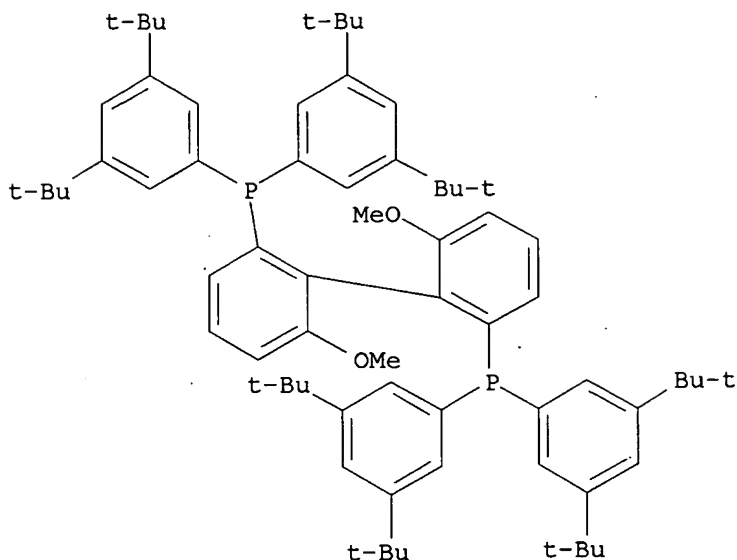
IT 133545-16-1 192138-05-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of hydroxypyranones by condensation of acyl halides with ketene acetals and cyclization)

RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



RN 192138-05-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-

bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



L3 ANSWER 139 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:581865 CAPLUS

DOCUMENT NUMBER: 135:152719

TITLE: Process for the (enantioselective) synthesis of
3,6-dialkyl-5,6-dihydro-4-hydroxy-pyran-2-ones via
intramolecular cyclization of (homochiral)
 α -halo esters

INVENTOR(S): Fleming, Michael Paul; Han, Yeun-Kwei; Hodges, Lewis
M.; Johnston, David A.; Micheli, Roger P.; Puentener,
Kurt; Roberts, Christopher R.; Scalone, Michelangelo;
Schwindt, Mark A.; Topping, Robert J.

PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.

SOURCE: PCT Int. Appl., 46 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

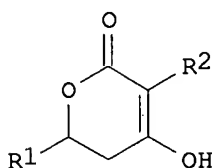
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001057014	A2	20010809	WO 2001-EP866	20010126
WO 2001057014	A3	20020418		
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US 6545165	B1	20030408	US 2000-668834	20000922
CA 2397232	A1	20010809	CA 2001-2397232	20010126
CA 2397232	C	20070123		
EP 1255747	A2	20021113	EP 2001-909697	20010126
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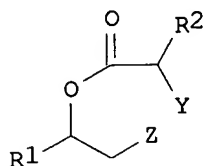
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IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2003521546	T	20030715	JP 2001-556864	20010126
CN 1680347	A	20051012	CN 2005-10070933	20010126
AT 341541	T	20061015	AT 2001-909697	20010126
US 2003158422	A1	20030821	US 2003-364536	20030210
US 6858749	B2	20050222		
US 2003158423	A1	20030821	US 2003-364547	20030210
US 6743927	B2	20040601		
US 2003171602	A1	20030911	US 2003-364692	20030210
US 6818789	B2	20041116		
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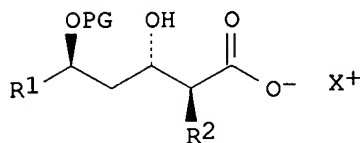
OTHER SOURCE(S): CASREACT 135:152719; MARPAT 135:152719
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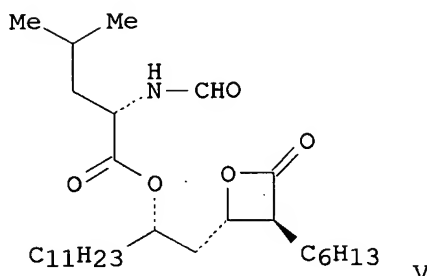
I



II



IV



V

AB A process for preparation of (homochiral) δ -lactone I by cyclization of II upon treatment with Mg, Mg/Na mixts., Grignard reagents, Sm or Mn [R1 = alkyl, preferably undecyl; R2 = alkyl, preferably hexyl; Y = halo; Z = CN, ester, amide, hydroxylamino amide, acid halide/anhydride, carboxyl carbonate or carboxyl haloformate] is described. II is prepared from R1CHOHCH2Z (III) and XCOCHBrR2 [X = Br, Cl]. (R)-III is prepared from the corresponding carbonyl compound by catalytic hydrogenation using a ruthenium catalyst/additive (over 20 examples). For instance, C11H23COCH2COOMe (preparation given) is reduced using [Ru(OAc)2(R)-MeOBIPHEP] [(R)-MeOBIPHEP = substituted bis(diphenylphosphine)] S/C = 50,000, 20 equivalent HCl, H2 (70 bar), 80°C, MeOH/H2O to give (R)-C11H23CHOHCH2COOMe, >99% conversion, >99% ee in 2 h. Further, stereoselective hydrogenation, base-mediated ring opening and protection of (R)-I to IV [PG = protecting group; X+ = cation] followed by cyclization, deprotection and reaction with N-formyl-S-leucine under Mitsunobu conditions is claimed to afford (e.g.) orlistat (V).

IT 133545-24-1 150971-35-0 172617-14-0
256390-47-3 256390-48-4 352655-37-9
352655-38-0 352655-39-1 352655-40-4

352655-41-5 352655-61-9

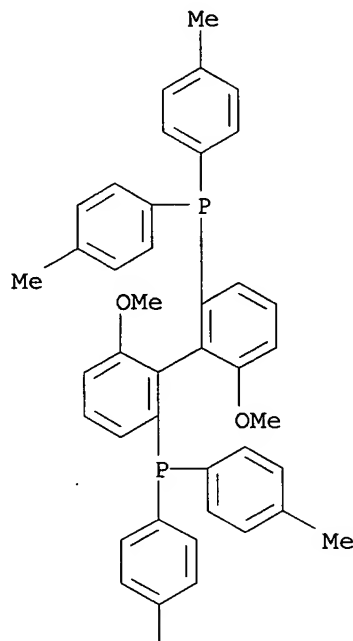
RL: CAT (Catalyst use); USES (Uses)

(catalyst; process for the enantioselective synthesis of
3,6-dialkyl-5,6-dihydro-4-hydroxy-pyran-2-ones via intramol.
cyclization of homochiral α -halo esters)

RN 133545-24-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A



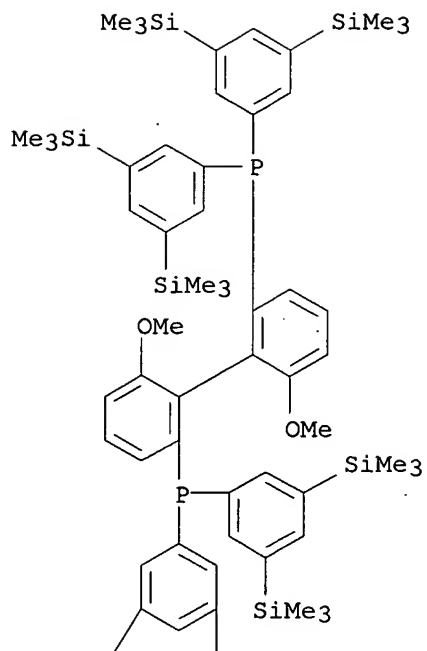
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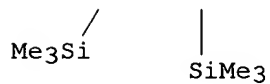
RN 150971-35-0 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(trimethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

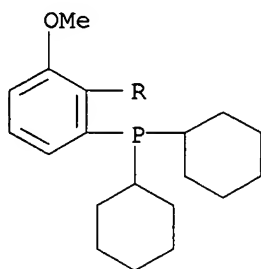


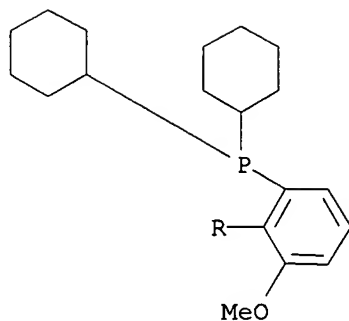
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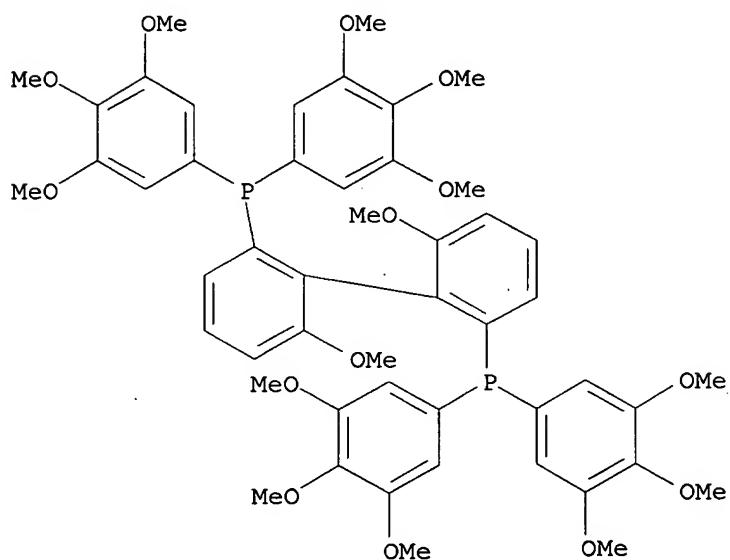
RN 172617-14-0 CAPLUS
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 (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

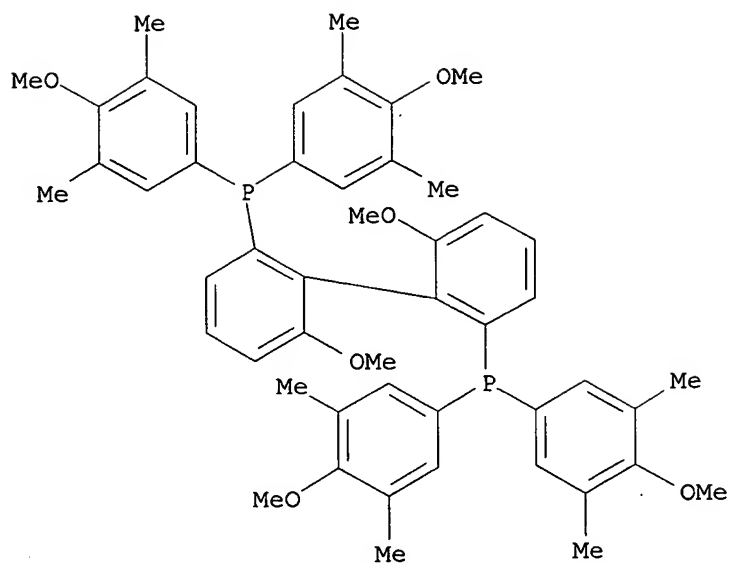




RN 256390-47-3 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,4,5-trimethoxyphenyl)- (9CI) (CA INDEX NAME)]

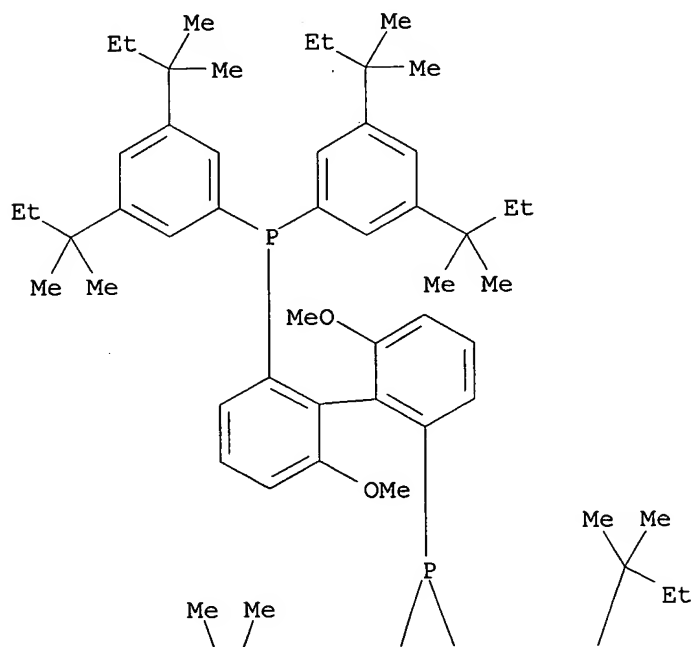


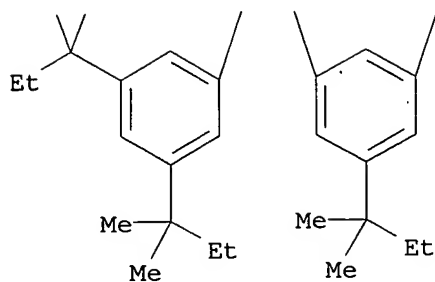
RN 256390-48-4 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxy-3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)]



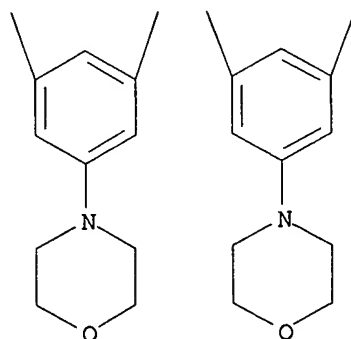
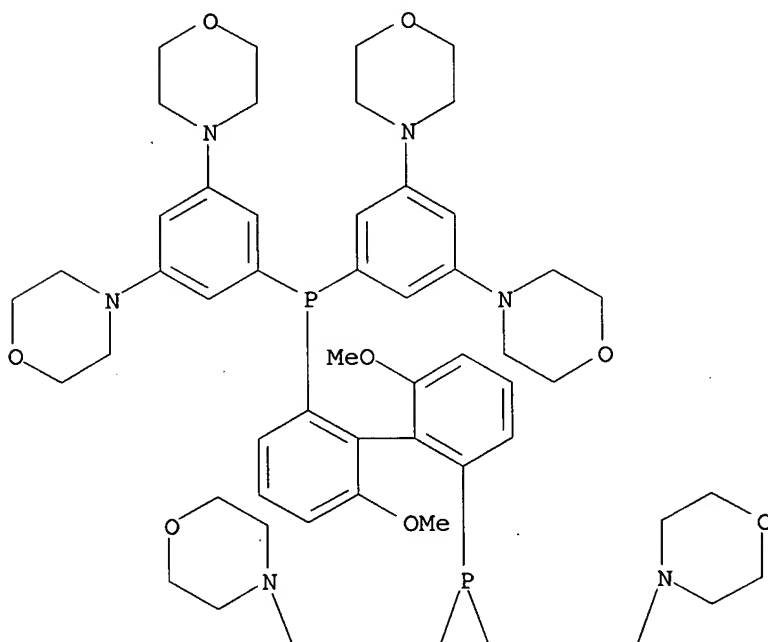
RN 352655-37-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylpropyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

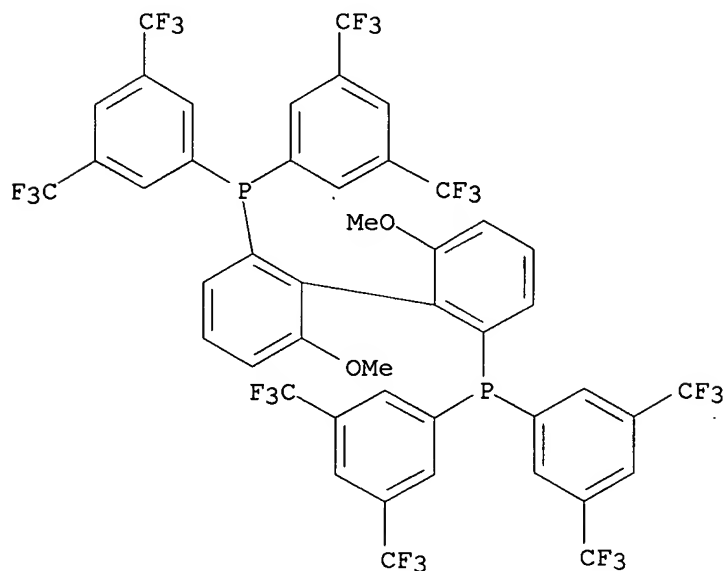




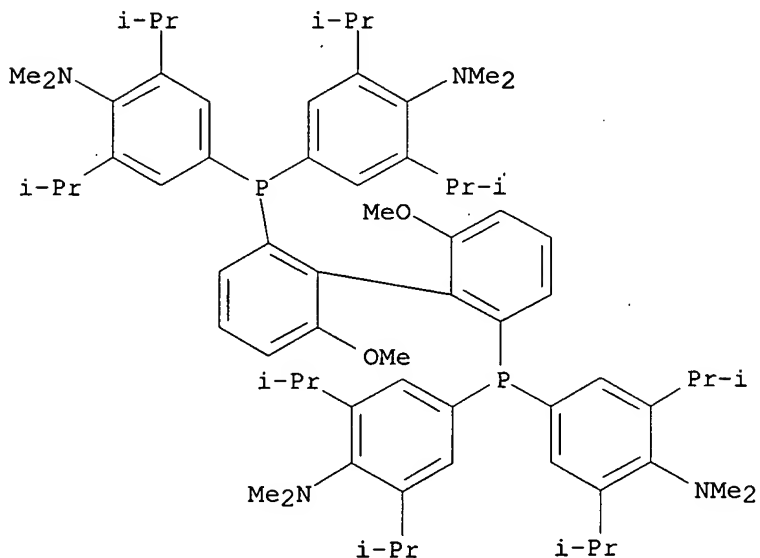
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CN Morpholine, 4,4',4'',4''',4'''',4'''''',4'''''''',4'''''''''-[[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis(phosphinidynedi-5,1,3-benzenetriyl)]octakis- (9CI) (CA INDEX NAME)



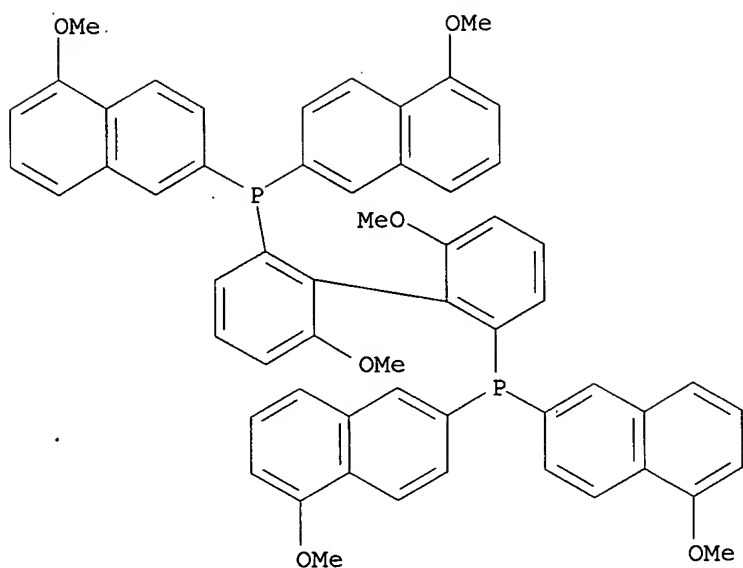
RN 352655-39-1 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-bis(trifluoromethyl)phenyl)- (9CI) (CA INDEX NAME)]



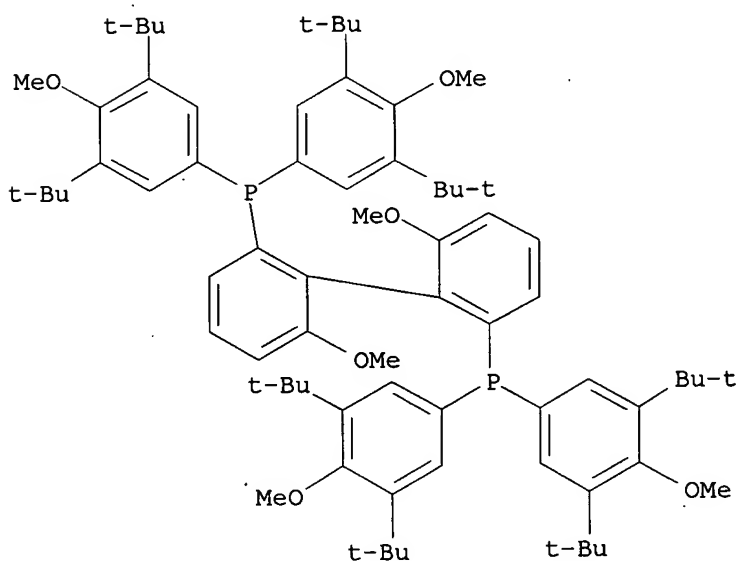
RN 352655-40-4 CAPLUS
 CN Benzenamine, 4,4',4'',4'''-[[[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]diphosphinidyne]tetrakis[N,N-dimethyl-2,6-bis(1-methylethyl)- (9CI) (CA INDEX NAME)]]



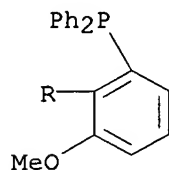
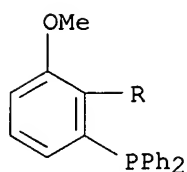
RN 352655-41-5 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(5-methoxy-2-naphthalenyl)- (9CI) (CA INDEX NAME)]



RN 352655-61-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)

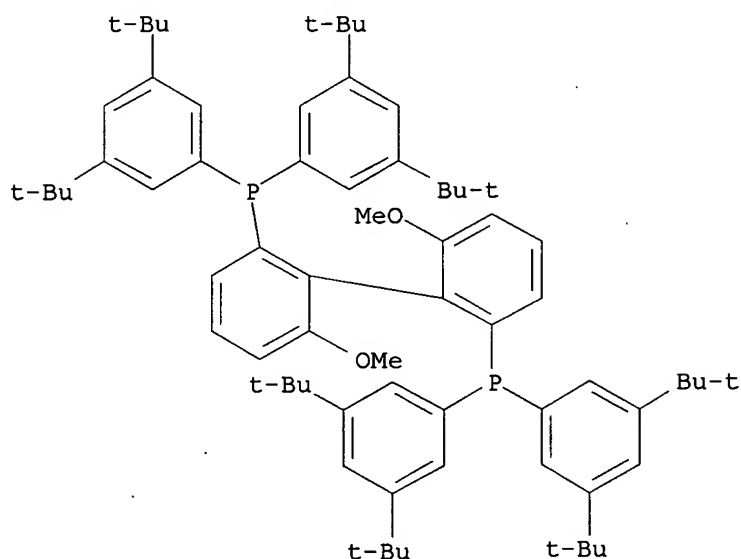


IT 133545-16-1P 192138-05-9P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)
 (catalyst; process for the enantioselective synthesis of
 3,6-dialkyl-5,6-dihydro-4-hydroxy-pyran-2-ones via intramol.
 cyclization of homochiral α -halo esters)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



RN 192138-05-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-bis(1,1-dimethylethyl)phenyl)- (9CI) (CA INDEX NAME)



L3 ANSWER 140 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:545644 CAPLUS

DOCUMENT NUMBER: 135:122198

TITLE: Preparation of optically active 1-alkoxy- or 1-aryloxy-2-alkanol compounds by asymmetrical hydrogenation of corresponding 1-alkoxy- or 1-aryloxy-2-alkanones

INVENTOR(S): Bulliard, Michel; Laboue, Blandine; Frein, Stephane

PATENT ASSIGNEE(S): PPG-Sipsy SCA, Fr.

SOURCE: PCT Int. Appl., 12 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

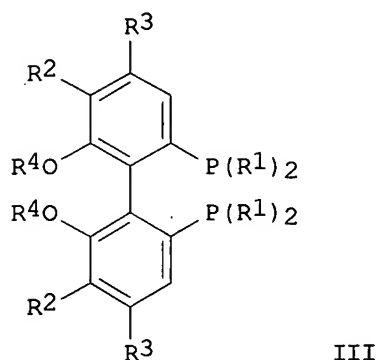
LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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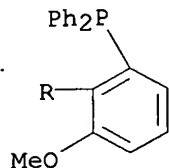
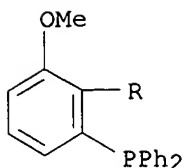
WO 2001053239 A1 20010726 WO 2001-FR191 20010119
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
FR 2804108 A1 20010727 FR 2000-785 20000121
FR 2804108 B1 20020419
PRIORITY APPLN. INFO.: FR 2000-785 A 20000121
OTHER SOURCE(S): CASREACT 135:122198; MARPAT 135:122198
GI



AB The invention concerns a method for preparing optically active 1-alkoxy- or 1-aryloxy-2-alkanol compds. $\text{RCH(OH)CH}_2\text{OR}'$ (I) by asym. hydrogenation of corresponding ketones $\text{RCOCH}_2\text{OR}'$ (II) [wherein: R = aryl, arylalkyl, or C1-6 alkyl, optionally substituted by C1-4 alkyl, alkoxy, or halo; R' = C1-6 alkyl, aryl such as Ph or PhCH_2 ; R' may equal or differ from R], in the presence of a chiral ruthenium-based catalyst. The catalyst is a ruthenium diphosphine Ru(Z)2L [where Z = halo, alcoholate, aryl, haloaryl, or halogenated base; L = chiral biphenyl diphosphine III; R1 = Ph group; R2, R3 = H, alkoxy; R4 = C1-5 alkyl, preferably Me]. I are drug synthesis intermediates. The ratio of substrate II to the Ru complex is preferably 1000 to 10,000. For example, a catalyst was generated in situ from bis(2-methylallyl)-1,5-cyclooctadieneruthenium(II), (R)-MeO-BIPHEP [i.e., (R)-III (R1 = Ph, R2 = R3 = H, R4 = Me)], and 2 equiv HBr, in degassed MeOH containing the substrate $\text{MeCOCH}_2\text{OMe}$. The mixture was hydrogenated overnight at 5 bar H_2 and 42° , to give (R)- $\text{MeCH(OH)CH}_2\text{OMe}$ in 63.9% yield, with 98.7% chemical purity and 97.2% enantiomeric excess.

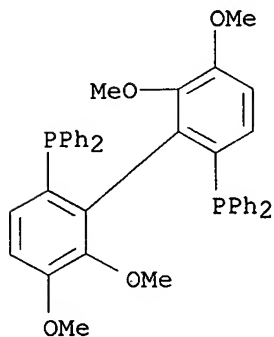
IT 133545-16-1, (R)-MeOBIPHEP
RL: CAT (Catalyst use); USES (Uses)
(catalyst precursor; preparation of optically active alkoxy- or aryloxyalkanols by asym. hydrogenation of corresponding alkoxy- or aryloxyalkanones)

RN 133545-16-1 CAPLUS
CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)]



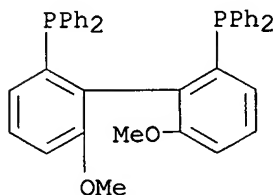
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 141 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2001:518573 CAPLUS
 DOCUMENT NUMBER: 135:331224
 TITLE: C2-Symmetric sulfur derivatives of 2,2',3,3'-tetramethoxybiphenyl
 AUTHOR(S): Delogu, G.; Fabbri, D.; Dettori, M. A.; Forni, A.; Casalone, G.
 CORPORATE SOURCE: Istituto CNR Applicazione delle Tecniche Chimiche Avanzate ai Problemi Agrobiologici, Sassari, I-07100, Italy
 SOURCE: Tetrahedron: Asymmetry (2001), 12(10), 1451-1458
 CODEN: TASYE3; ISSN: 0957-4166
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 135:331224
 AB A practical route to prepare dithioether, thiophene and thiophene S-dioxide derivs. of 2,2',3,3'-tetramethoxy-1,1'-biphenyl is described. Resolution of 6,6'-bis(methylthio)-3,3'-dimethoxy-[1,1'-biphenyl]-2,2'-diol was achieved and its absolute configuration was assigned by X-ray anal. of the corresponding phosphorothioamidate diastereomer.
 IT 133577-93-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of C2-sym. sulfur derivs. of 2,2',3,3'-tetramethoxybiphenyl)
 RN 133577-93-2 CAPLUS
 CN Phosphine, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-
 (9CI) (CA INDEX NAME)



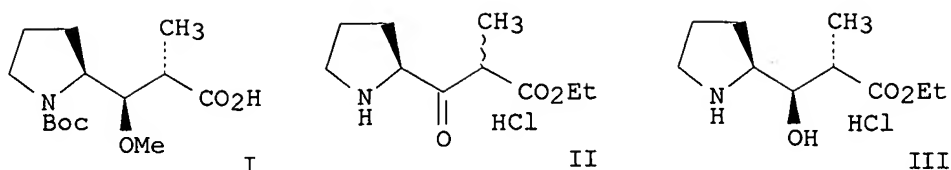
REFERENCE COUNT: 87 THERE ARE 87 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 142 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:460476 CAPLUS
DOCUMENT NUMBER: 135:241955
TITLE: Enantioselective copper-catalyzed SN2' substitution with Grignard reagents
AUTHOR(S): Alexakis, Alexandre; Malan, Christophe; Lea, Louise; Benhaim, Cyril; Fournioux, Xavier
CORPORATE SOURCE: Chimie Organique, Sciences II, University of Geneva, Geneva, CH-1211, Switz.
SOURCE: Synlett (2001), (Spec. Issue), 927-930
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:241955
AB Cinnamyl chlorides undergo selective SN2' allylic substitution by Grignard reagents using a catalytic amount (1 mol %) of CuCN and 1-2 mol % trivalent phosphorus ligand in dichloromethane. With chiral phosphorus ligands derived from TADDOL, ee's up to 73% could be obtained.
IT 133577-92-1
RL: CAT (Catalyst use); USES (Uses)
(enantioselective copper-catalyzed SN2' substitution with Grignard reagents)
RN 133577-92-1 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl]- (9CI)
(CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 143 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:368140 CAPLUS
DOCUMENT NUMBER: 135:137688
TITLE: Stereoselective Synthesis of iso-Dolaproine via Dynamic Kinetic Resolution
AUTHOR(S): Lavergne, Damien; Mordant, Celine; Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre
CORPORATE SOURCE: Laboratoire de Synthese Selective Organique et Produits Naturels, UMR 7573 CNRS Ecole Nationale Supérieure de Chimie de Paris, Paris, F-75231, Fr.
SOURCE: Organic Letters (2001), 3(12), 1909-1912
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:137688
GI

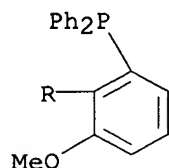
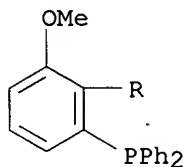


AB An efficient multigram-scale synthesis of optically pure Boc-(2S,3R,4S)-iso-dolaproine (I) was achieved using dynamic kinetic resolution Catalytic asym. hydrogenation of β -keto ester II using Ru[(S)-MeO-BIPHEP]Br₂ catalyst, generated in situ, afforded the anti β -hydroxy α -Me ester III in quant. yield. III was converted into I in 4 steps. The two new stereogenic centers were simultaneously controlled with high diastereoselectivity.

IT 133545-17-2
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (stereoselective, multigram preparation of iso-dolaproine using dynamic kinetic resolution for separating minor diastereomers)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 144 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:338996 CAPLUS

DOCUMENT NUMBER: 135:108887

TITLE: Large-Scale Candoxatril Asymmetric Hydrogenation

AUTHOR(S): Bulliard, Michel; Laboue, Blandine; Lastennet, Jean; Roussiasse, Sonia

CORPORATE SOURCE: PPG-SIPSY, Avrille, 49242, Fr.

SOURCE: Organic Process Research & Development (2001), 5(4), 438-441
 CODEN: OPRDFK; ISSN: 1083-6160

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Ruthenium-catalyzed asym. hydrogenation was used to prepare tons of a key chiral succinate intermediate for clin. trials quantities of candoxatril. MeOBiphep was used as the ligand, and the catalyst was generated in situ from RuCOdBismethylallyl. THF was the best cosolvent for the reaction

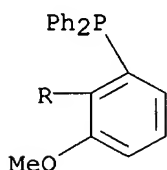
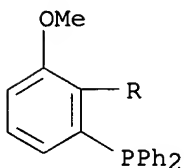
leading to a selective hydrogenation and a process which was readily amenable on large scale.

IT 133545-16-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(catalyst starting material; large-scale asym. hydrogenation of intermediate in candoxatril manufacture using ruthenium catalysts)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 145 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:262999 CAPLUS

DOCUMENT NUMBER: 135:76757

TITLE: Catalytic synthesis and asymmetric reduction of pyridylglyoxylic amides and esters

AUTHOR(S): Couve-Bonnaire, Samuel; Carpentier, Jean-Francois; Mortreux, Andre; Castanet, Yves

CORPORATE SOURCE: Laboratoire de Catalyse de Lille, UPRESA CNRS 8010, Groupe de Chimie Organique Appliquee, Ecole Nationale Supérieure de Chimie de Lille, Villeneuve d'Ascq, 59652, Fr.

SOURCE: Advanced Synthesis & Catalysis (2001), 343(3), 289-298
CODEN: ASCAF7; ISSN: 1615-4150

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:76757

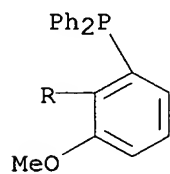
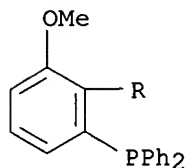
AB The preparation of 2-pyridyl- and 4-pyridylglyoxylic esters and amides in moderate to high yields via palladium-catalyzed double carbonylation of 2-iodo- and 4-iodopyridines is reported. The effect of temperature, CO pressure, solvent, nature and concentration of nucleophile, nature of catalyst precursor, and substituents on iodopyridines has been investigated. The reduction of 4-pyridylglyoxylate esters into the corresponding α -hydroxy esters via ruthenium-catalyzed asym. hydrogenation or using alpine-borane proceeded in high yields but poor enantioselectivity. The results for the carbonylation and the hydrogenation catalytic processes are discussed in terms of electronic effects induced by the pyridyl ring.

IT 133545-17-2, (S)-MeoBiphep

RL: CAT (Catalyst use); USES (Uses)
(preparation of glycolate esters from catalytic, asym. hydrogenation of glyoxylate esters)

RN 133545-17-2 CAPLUS

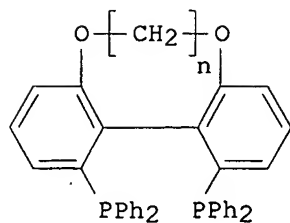
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

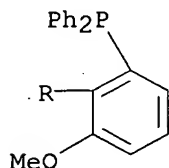
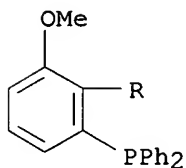
L3 ANSWER 146 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2001:228894 CAPLUS
 DOCUMENT NUMBER: 134:266437
 TITLE: Chiral phosphines, transition metal complexes thereof and uses thereof in asymmetric reactions
 INVENTOR(S): Zhang, Xumu
 PATENT ASSIGNEE(S): Penn State Research Foundation, USA
 SOURCE: PCT Int. Appl., 52 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001021625	A1	20010329	WO 2000-US25635	20000919
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2385421	A1	20010329	CA 2000-2385421	20000919
EP 1214328	A1	20020619	EP 2000-965136	20000919
EP 1214328	B1	20060503		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
US 6521769	B1	20030218	US 2000-665456	20000919
JP 2003509513	T	20030311	JP 2001-525000	20000919
AT 324943	T	20060615	AT 2000-965136	20000919
ES 2263487	T3	20061216	ES 2000-965136	20000919
PRIORITY APPLN. INFO.:			US 1999-154845P	P 19990920
			WO 2000-US25635	W 20000919
OTHER SOURCE(S):			CASREACT 134:266437; MARPAT 134:266437	
GI				

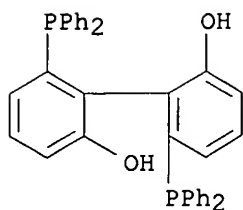


I

- AB Chiral ligands and transition metal complexes based on such chiral ligands useful in asym. catalysis are disclosed. The chiral ligands include chiral C1-C6-TunaPhos ligands I ($n = 1-6$). The ruthenium TunaPhos complex reduces ketones to the corresponding alcs. with 95-99.6 % enantioselectivity. The transition metal complexes of the chiral ligands are useful in asym. reactions such as asym. hydrogenation, hydride transfer, hydrosilylation, hydroboration, hydrovinylation, hydroformylation, hydrocarboxylation, isomerization, allylic alkylation, cyclopropanation, Diels-Alder reaction, Heck reaction, isomerization, Aldol reaction, Michael addition and epoxidn. reactions.
- IT 133545-16-1P, (R)-MeO-BIPHEP
 RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (as free ligand and as dendrimer core; preparation as chiral diphosphine cocatalyst in transition metal complex catalyzed asym. reactions and demethylation of)
- RN 133545-16-1 CAPLUS
- CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl]- (CA INDEX NAME)



- IT 151395-61-8P, (R)-HO-BIPHEP
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and cyclization with organo dihalide)
- RN 151395-61-8 CAPLUS
- CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)



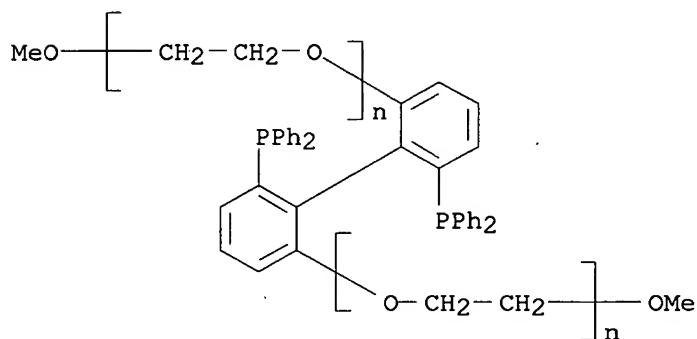
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 331768-85-5 331768-86-6 331769-41-6
 331769-42-7 331769-43-8 331769-44-9
 331769-45-0 331769-46-1 331769-47-2
 331769-48-3 331769-49-4 331769-50-7
 331769-51-8 331769-52-9 331769-53-0
 331769-54-1 331769-55-2 331769-56-3
 331769-57-4

RL: CAT (Catalyst use); USES (Uses)

(preparation of chiral diphosphines as cocatalyst in transition metal complex catalyzed asym. reactions)

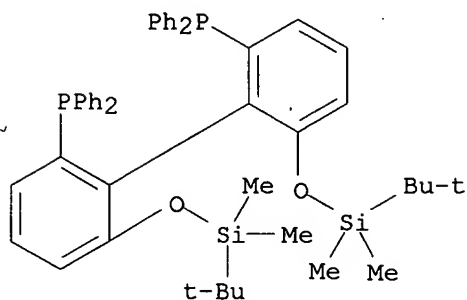
RN 331754-81-5 CAPLUS

CN Poly(oxy-1,2-ethanediyl), α,α' -[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis[ω -methoxy- (9CI) (CA INDEX NAME)



RN 331768-78-6 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



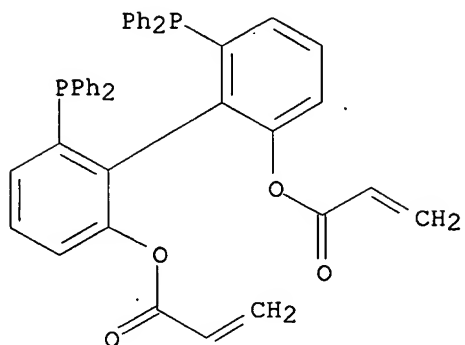
RN 331768-80-0 CAPLUS

CN 2-Propenoic acid, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 331768-79-7

CMF C42 H32 O4 P2



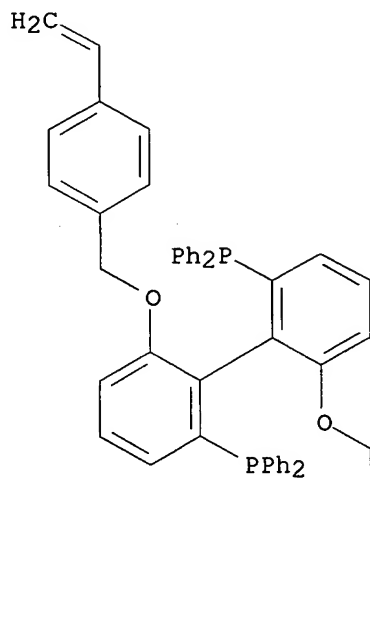
RN 331768-82-2 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[(4-ethenylphenyl)methoxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl-, homopolymer (9CI) (CA INDEX NAME)

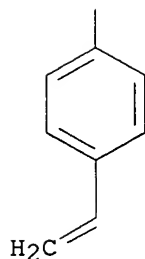
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CRN 331768-81-1

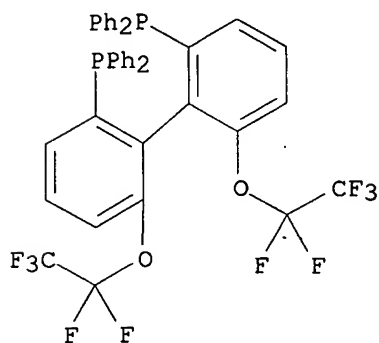
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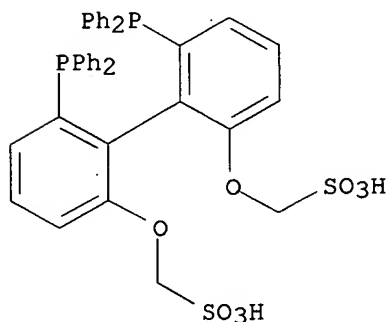
PAGE 1-A



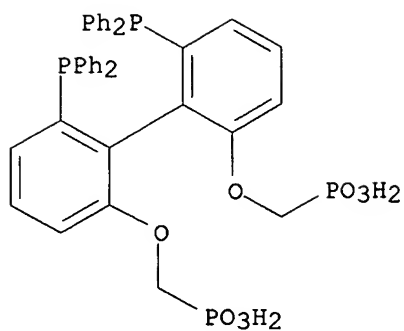
RN 331768-83-3 CAPLUS
 CN Phosphine, [(1R)-6,6'-bis(pentafluoroethoxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



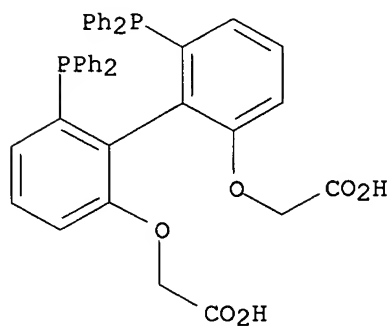
RN 331768-84-4 CAPLUS
 CN Methanesulfonic acid, [[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



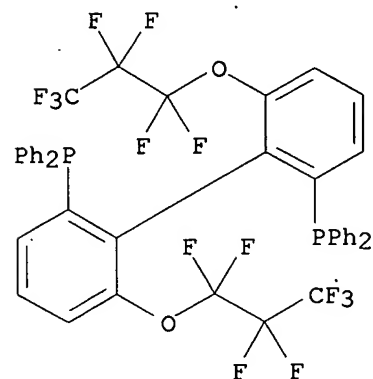
RN 331768-85-5 CAPLUS
 CN Phosphonic acid, [[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxymethylene)]bis- (9CI) (CA INDEX NAME)



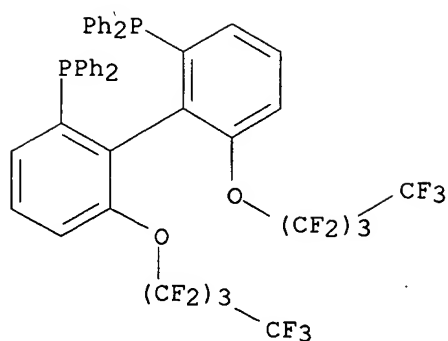
RN 331768-86-6 CAPLUS
 CN Acetic acid, 2,2'-[[(1R)-6,6'-bis(diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



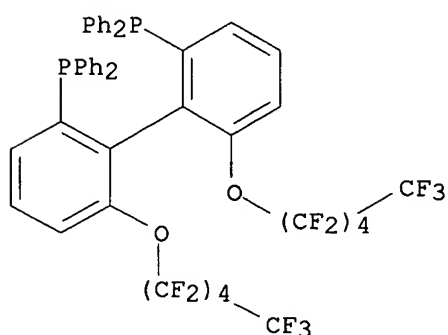
RN 331769-41-6 CAPLUS
 CN Phosphine, [(1R)-6,6'-bis(heptafluoropropoxy) [1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



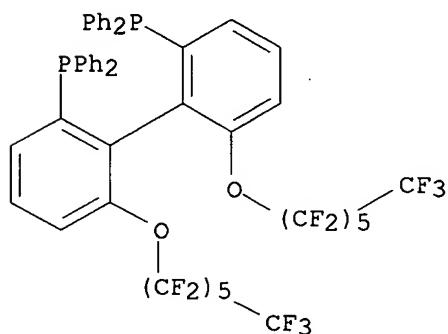
RN 331769-42-7 CAPLUS
 CN Phosphine, [(1R)-6,6'-bis(nonafluorobutoxy) [1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



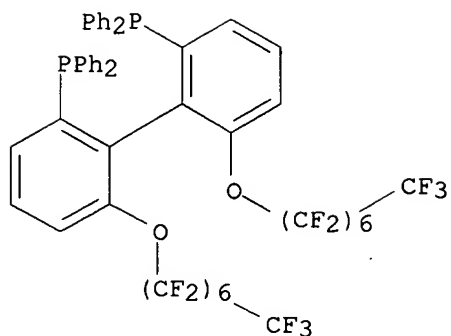
RN 331769-43-8 CAPLUS
 CN Phosphine, [(1R)-6,6'-bis[(undecafluoropentyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 331769-44-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-bis[(tridecafluorohexyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

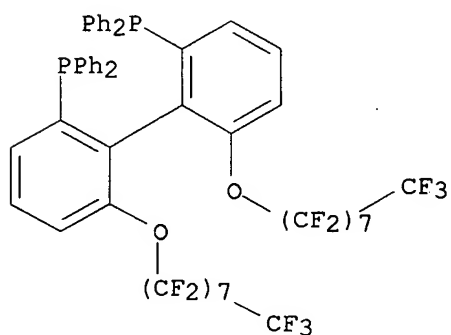


RN 331769-45-0 CAPLUS
 CN Phosphine, [(1R)-6,6'-bis[(pentadecafluoroheptyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



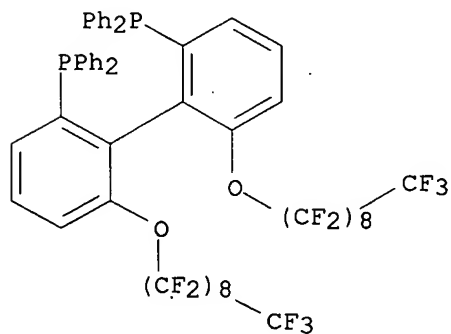
RN 331769-46-1 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[(heptafluorooctyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



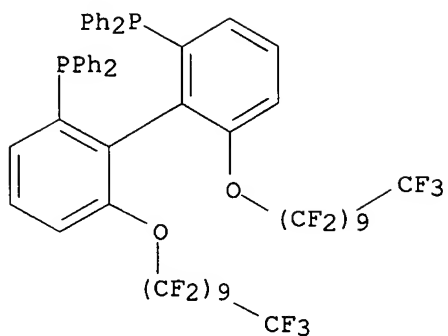
RN 331769-47-2 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[(nonafluorononyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]

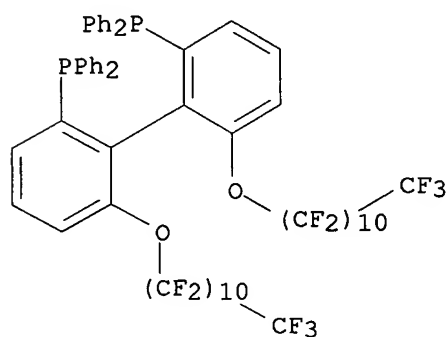


RN 331769-48-3 CAPLUS

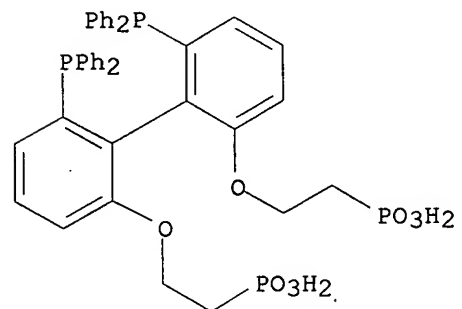
CN Phosphine, [(1R)-6,6'-bis[(undecafluorododecyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



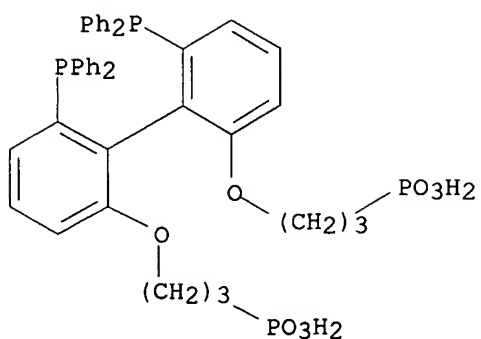
RN 331769-49-4 CAPLUS
 CN Phosphine, [(1R)-6,6'-bis[(tricosafuoroundecyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 331769-50-7 CAPLUS
 CN Phosphonic acid, [[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy-2,1-ethanediyl)]bis- (9CI) (CA INDEX NAME)

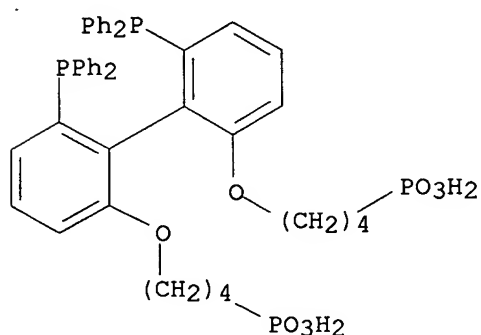


RN 331769-51-8 CAPLUS
 CN Phosphonic acid, '[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy-3,1-propanediyl)]bis- (9CI) (CA INDEX NAME)



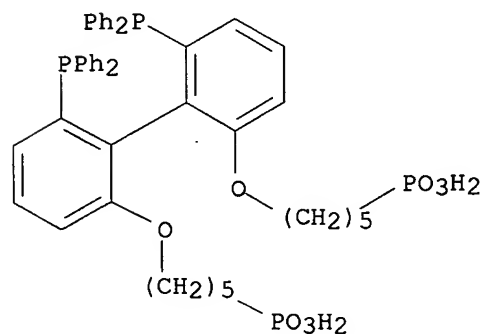
RN 331769-52-9 CAPLUS

CN Phosphonic acid, [[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy-4,1-butanediyl)]bis- (9CI) (CA INDEX NAME)



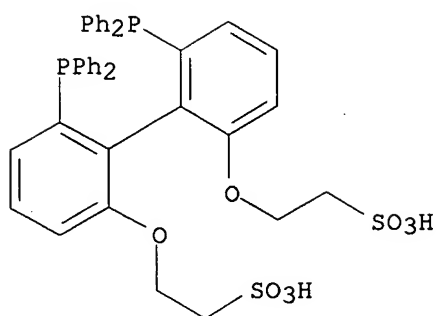
RN 331769-53-0 CAPLUS

CN Phosphonic acid, [[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy-5,1-pentanediy)]bis- (9CI) (CA INDEX NAME)



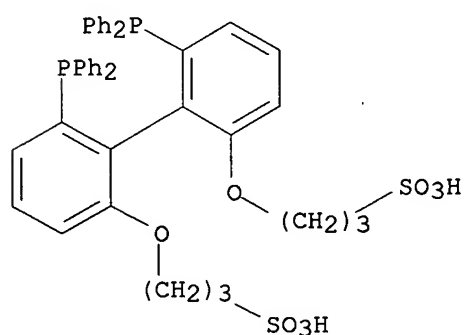
RN 331769-54-1 CAPLUS

CN Ethanesulfonic acid, 2,2'-[[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



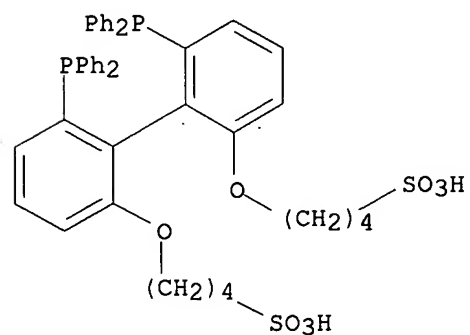
RN 331769-55-2 CAPLUS

CN 1-Propanesulfonic acid, 3,3'-[[(1R)-6,6'-bis(diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



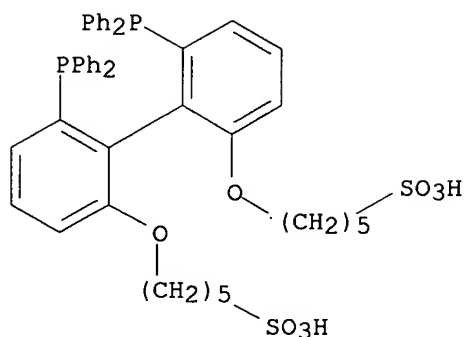
RN 331769-56-3 CAPLUS

CN 1-Butanesulfonic acid, 4,4'-[[(1R)-6,6'-bis(diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

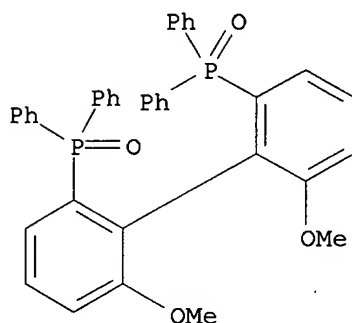


RN 331769-57-4 CAPLUS

CN 1-Pentanesulfonic acid, 5,5'-[[(1R)-6,6'-bis(diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)



IT 133577-82-9, (R)-(6,6'-Dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine oxide)
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reduction of)
 RN 133577-82-9 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-,
 (1R)- (9CI) (CA INDEX NAME)



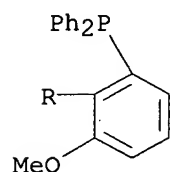
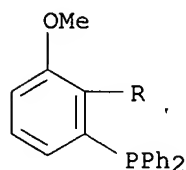
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 147 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2001:222346 CAPLUS
 DOCUMENT NUMBER: 135:60899
 TITLE: Asymmetric hydrogenation reactions using a practical in situ generation of chiral ruthenium-diphosphine catalysts from anhydrous RuCl₃
 AUTHOR(S): Madec, J.; Pfister, X.; Phansavath, P.; Ratovelomanana-Vidal, V.; Genet, J.-P.
 CORPORATE SOURCE: Laboratoire de Synthèse Selective Organique et Produits Naturels, UMR 7573, Ecole Nationale Supérieure de Chimie de Paris, Paris, 75231, Fr.
 SOURCE: Tetrahedron (2001), 57(13), 2563-2568
 CODEN: TETRAB; ISSN: 0040-4020
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 135:60899
 AB A very simple in situ preparation of chiral ruthenium-diphosphine catalysts from anhydrous RuCl₃ is reported. Prochiral C:O and C:C bonds have been reduced with high enantioselectivities via ruthenium-catalyzed hydrogenation.
 IT 133545-16-1 133545-17-2
 RL: CAT (Catalyst use); USES (Uses)

(asym. hydrogenation reactions with in situ generation of chiral
ruthenium-diphosphine catalysts from anhydrous RuCl₃)

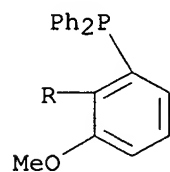
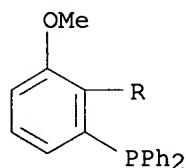
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-
diphenyl- (CA INDEX NAME)



RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-
diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 148 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:207048 CAPLUS

DOCUMENT NUMBER: 135:19689

TITLE: A practical synthetic approach to chiral α -aryl
substituted ethylphosphonates

AUTHOR(S): Goulioukina, Natalia S.; Dolgina, Tat'yana M.;
Beletskaya, Irina P.; Henry, Jean-Christophe;
Lavergne, Damien; Ratovelomanana-Vidal, Virginie;
Genet, Jean-Pierre

CORPORATE SOURCE: Department of Chemistry, Moscow State University,
Moscow, 119899, Russia

SOURCE: Tetrahedron: Asymmetry (2001), 12(2), 319-327

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:19689

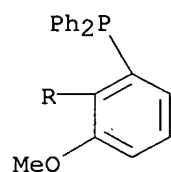
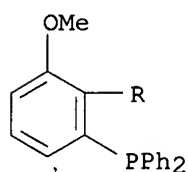
AB A convenient general method is reported for the synthesis of α -aryl substituted ethylphosphonic acids and esters by hydrogenation of α -aryl substituted ethenylphosphonic acids and esters. Racemic α -arylethylphosphonic acids and esters were prepared in 70-88% yield under Pd-assisted transfer hydrogenation conditions using ammonium formate. Asym. hydrogenation of α -arylethenylphosphonic acids using chiral Ru(II) catalysts led to α -arylethylphosphonic acids with enantiomeric excesses up to 86%.

IT 133545-16-1 145214-57-9

RL: CAT (Catalyst use); USES (Uses)
(asym. hydrogenation of arylethenylphosphonic acids in presence of chiral ruthenium bisphosphine catalysts)

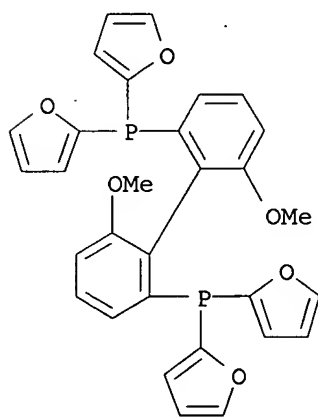
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 145214-57-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

65

THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 149 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:125139 CAPLUS

DOCUMENT NUMBER: 134:295952

TITLE: Synthesis of citronellal by Rh1-catalyzed asymmetric isomerization of N,N-diethyl-substituted geranyl- and nerylamines or geraniol and nerol in the presence of chiral diphosphino ligands, under homogeneous and supported conditions

AUTHOR(S): Chapuis, Christian; Barthe, Michel; De Saint Laumer, Jean-Yves

CORPORATE SOURCE: Corporate R&D Division, Firmenich SA, Geneva, CH-1211/8, Switz.

SOURCE: Helvetica Chimica Acta (2001), 84(1), 230-242
CODEN: HCACAV; ISSN: 0018-019X

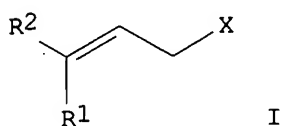
PUBLISHER: Verlag Helvetica Chimica Acta

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 134:295952

GI

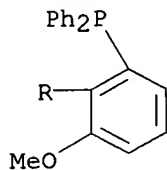
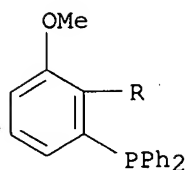


AB For the asym. isomerization of geranyl- or neryldiethylamine, I (R1 = Me, R2 = Me2CCH(CH2)2, X = Et2N), and I (R1 = Me2CCH(CH2)2, R2 = Me, X = Et2N), resp. and allyl alcs. geraniol or nerol, I (R1 = Me, R2 = Me2CCH(CH2)2, X = OH), and I (R1 = Me2CCH(CH2)2, R2 = Me, X = OH), resp. to citronellal in the presence of a [Rh1(ligand)cycloocta-1,5-diene]+ catalyst, atropic ligands are compared under homogeneous and polymer-supported conditions with non-C2-sym. diphosphino ferrocene ligands. Silica-gel- or polymer-supported diphosphino ligands usually afford similar selectivity as compared to the corresponding ligands applied under homogeneous conditions, but are generally less reactive. In this context, a polymer-supported ligand of interest is the polymer-anchored (R)-binap, in terms of reactivity, selectivity, and recoverability, with a turnover of more than 14400.

IT 133545-17-2
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(synthesis of citronellal by Rh1-catalyzed asym. isomerization of N,N-diethyl-substituted geranyl- and nerylamines or geraniol and nerol in the presence of chiral diphosphino ligands, under homogeneous and supported conditions)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]

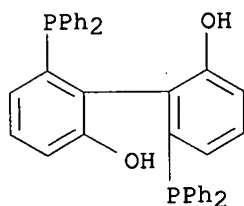


IT 151395-62-9P

RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(synthesis of citronellal by RhI-catalyzed asym. isomerization of N,N-diethyl-substituted geranyl- and nerylamines or geraniol and nerol in the presence of chiral diphosphino ligands, under homogeneous and supported conditions)

RN 151395-62-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA INDEX NAME)



IT 333998-29-1DP, TentaGel S-Br-polymer supported

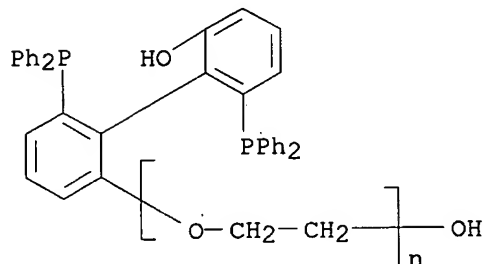
334018-49-4DP, TentaGel S-COOH ester support 334474-02-1P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(synthesis of citronellal by RhI-catalyzed asym. isomerization of N,N-diethyl-substituted geranyl- and nerylamines or geraniol and nerol in the presence of chiral diphosphino ligands, under homogeneous and supported conditions)

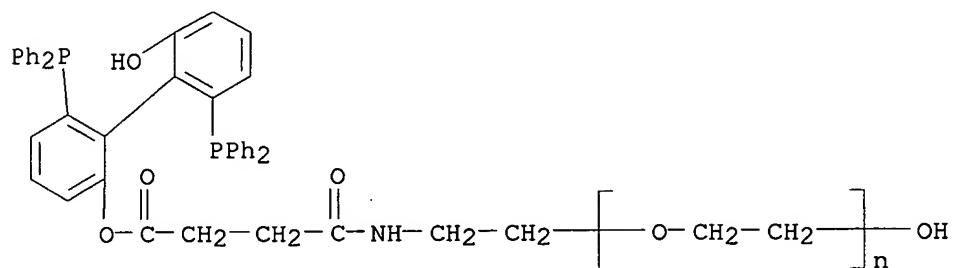
RN 333998-29-1 CAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[(1S)-2',6-bis(diphenylphosphino)-6'-hydroxy[1,1'-biphenyl]-2-yl]- ω -hydroxy- (9CI) (CA INDEX NAME)



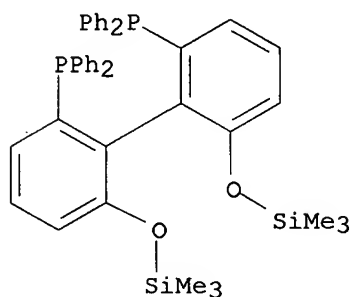
RN 334018-49-4 CAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[2-[[4'-[[[(1S)-2',6-bis(diphenylphosphino)-6'-hydroxy[1,1'-biphenyl]-2-yl]oxy]-1,4-dioxobutyl]amino]ethyl]- ω -hydroxy- (9CI) (CA INDEX NAME)



RN 334474-02-1 CAPLUS

CN Phosphine, [(1S)-6,6'-bis[(trimethylsilyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

105 THERE ARE 105 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L3 ANSWER 150 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:28618 CAPLUS

DOCUMENT NUMBER: 134:86384

TITLE: Process for the racemization of atropisomeric bis(phosphine oxide) compounds

INVENTOR(S): Kienzle, Frank; Lalonde, Michel; Schmid, Rudolf; Wang, Shaoning

PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.

SOURCE: Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

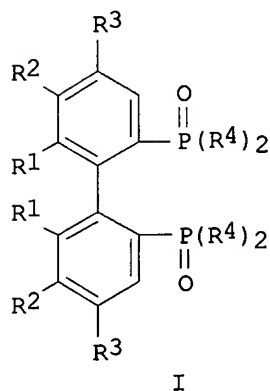
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1067133	A1	20010110	EP 2000-114219	20000703
EP 1067133	B1	20030917		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6288280	B1	20010911	US 2000-594643	20000615
AT 250072	T	20031015	AT 2000-114219	20000703

ES 2204411	T3	20040501	ES 2000-114219	20000703
CA 2313338	A1	20010109	CA 2000-2313338	20000704
JP 2001039993	A	20010213	JP 2000-203499	20000705
JP 3688563	B2	20050831		
CN 1281860	A	20010131	CN 2000-120417	20000707
BR 2000002650	A	20010313	BR 2000-2650	20000707
PRIORITY APPLN. INFO.:			EP 1999-113306	A 19990709
OTHER SOURCE(S):	MARPAT	134:86384		
GI				



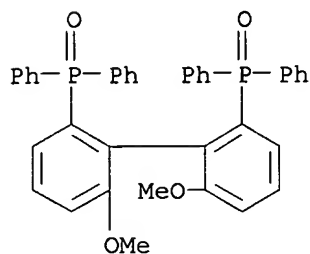
AB The present invention is concerned with a novel process for the racemization of atropisomeric bis(phosphine oxide) compds. I (R1 = C1-8 alkoxy, R2 = H, C1-8 alkyl, C1-8 alkoxy, R1R2 = methylenedioxy, ethylenedioxy; R3 = H, C1-8 alkyl, C1-8 alkoxy; R4 = (un)substituted Ph) in their (S) or (R) or non-racemic form, for the preparation of optical active bisphosphine ligands, which form optical active complexes with transition metals are formed. These complexes are used as catalysts in a number of asym. reactions. The racemization is thermal and carried out in high or low boiling solvent, under normal or elevated pressure at 105 to 3.5x10⁷ Pa. The heating is performed in a system which allows heating up to 400° (reactor, autoclave, aluminum block, round-bottom flask with heating/stirring mantle and the like) or by microwave irradiation or in the melt at a temperature from 260-400°, preferably from 280-380°, batchwise or in a continuous manner.

IT 133545-15-0P, (RS)-MeOBIPHEPO 133545-18-3P, (RS)-DiMeOBIPHEPO 133545-23-0P, (RS)-p-Tol-MeOBIPHEPO

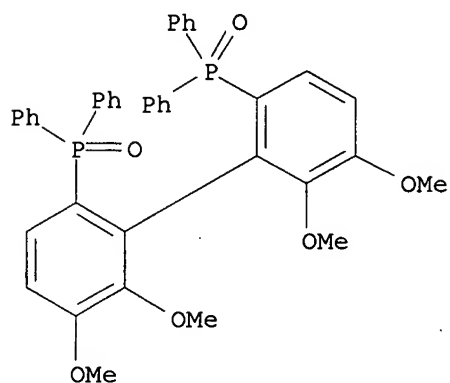
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

RN 133545-15-0 CAPLUS

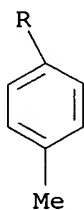
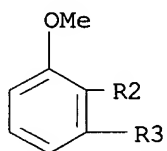
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



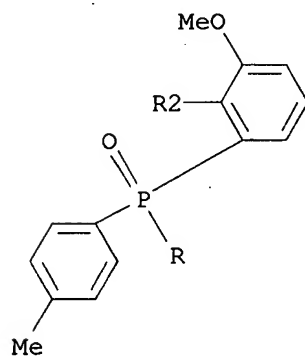
RN 133545-18-3 CAPLUS
 CN Phosphine oxide, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



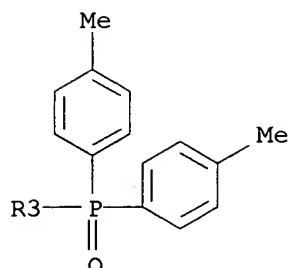
RN 133545-23-0 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



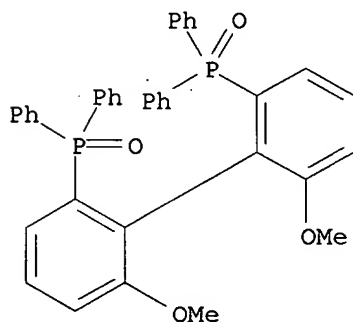
PAGE 1-A



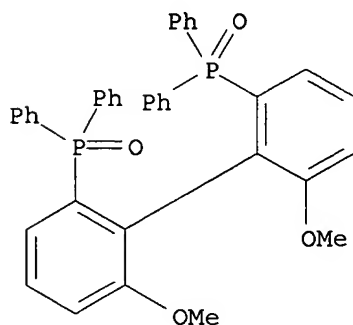
PAGE 2-A



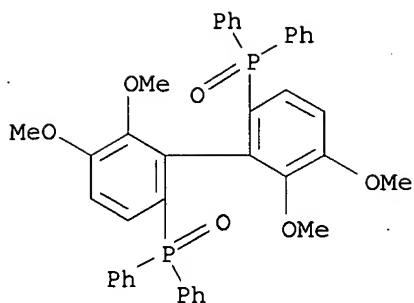
IT 133577-82-9, (R)-MeOBIPHEPO 133577-84-1, (S)-MeOBIPHEPO
 133577-86-3, (S)-DiMeOBIPHEPO 133577-87-4,
 (R)-DiMeOBIPHEPO 133577-89-6, (S)-p-Tol-MeOBIPHEPO
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (thermal or microwave irradiation racemization of)
 RN 133577-82-9 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-,
 (1R)- (9CI) (CA INDEX NAME)



RN 133577-84-1 CAPLUS
 CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
 diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

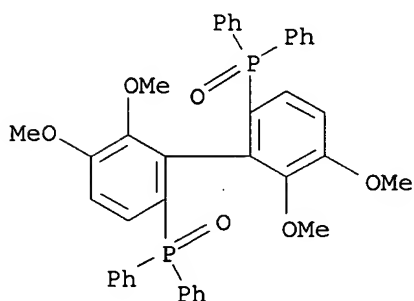


RN 133577-86-3 CAPLUS
 CN Phosphine oxide, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-
 diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



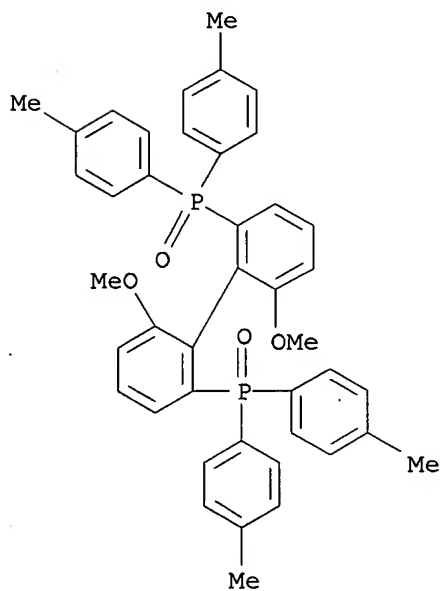
RN 133577-87-4 CAPLUS

CN Phosphine oxide, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 133577-89-6 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

3

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 151 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:900235 CAPLUS
 DOCUMENT NUMBER: 134:58205
 TITLE: Stereospecific isomerisation of allylamines with the aid of immobilised phosphorated chiral ligands
 INVENTOR(S): Chapuis, Christian
 PATENT ASSIGNEE(S): Firmenich S.A., Switz.
 SOURCE: Eur. Pat. Appl., 15 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1060793	A1	20001220	EP 2000-111333	20000526
EP 1060793	B1	20050615		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AT 297807	T	20050715	AT 2000-111333	20000526
ES 2243171	T3	20051201	ES 2000-111333	20000526
US 6350910	B1	20020226	US 2000-588687	20000607
JP 2001011029	A	20010116	JP 2000-182162	20000616
PRIORITY APPLN. INFO.:			CH 1999-1131	A 19990617
OTHER SOURCE(S):		MARPAT 134:58205		

AB The present invention describes a method for stereospecific isomerization of prochiral allylamines into enamines and chiral imines, by using catalysts of Rh, Ir and Ru having phosphine chiral ligands immobilized on a solid material. The immobilized ligands are derivs. of phosphines of the type bis(diphenylphosphino)biaryl such as, for example, the phosphine known by the name BINAP. The method is particularly suitable for the production of optically active citronellal which may be obtained in optical purities above 95%. Neryldiethylamine was isomerized to (+)-citronella using [Rh(COD)₂]+SO₃CF₃⁻ and a ligand comprising (-)-(S)-6, 6'-Bis(diphenylphosphino)biphenyl-2,2'-diol supported on Tentagel as catalysts.

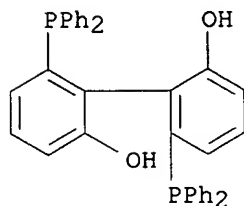
IT 151395-62-9P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(stereospecific isomerisation of allylamines with the aid of immobilized phosphorated chiral ligands)

RN 151395-62-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA INDEX NAME)



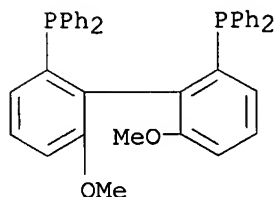
IT 133577-92-1

RL: RCT (Reactant); RACT (Reactant or reagent)
 (stereospecific isomerisation of allylamines with the aid of immobilized phosphorated chiral ligands)

RN 133577-92-1 CAPLUS

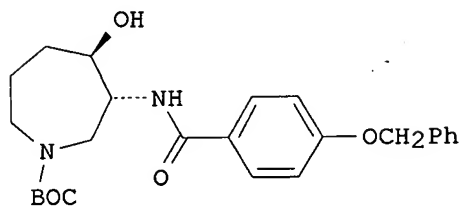
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)

(CA INDEX NAME)



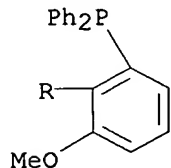
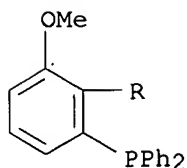
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 152 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:863119 CAPLUS
DOCUMENT NUMBER: 134:115780
TITLE: An efficient formal synthesis of (-)-balanol by using ruthenium-catalyzed asymmetric hydrogenation
AUTHOR(S): Phansavath, Phannarath; De Paule, Sebastien Duprat; Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre
CORPORATE SOURCE: Ecole Nationale Supérieure de Chimie de Paris, Laboratoire de Synthèse Sélective Organique et Produits Naturels, U.M.R. 7573, Paris, 75231, Fr.
SOURCE: European Journal of Organic Chemistry (2000), (23), 3903-3907
CODEN: EJOCFK; ISSN: 1434-193X
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:115780
GI



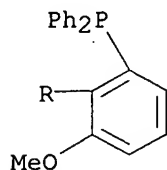
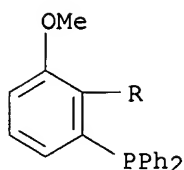
I

AB An efficient formal synthesis of (-)-balanol is reported. The ten-step sequence leading to a key precursor I features a highly stereoselective synthesis of the functionalized hexa-hydroazepine core through dynamic kinetic resolution of a racemic α -amido β -keto ester using a ruthenium(II)-catalyzed hydrogenation reaction.
IT 133545-16-1, (R)-MeO-BIPHEP
RL: CAT (Catalyst use); USES (Uses)
(efficient formal synthesis of (-)-balanol via ruthenium-catalyzed asym. hydrogenation)
RN 133545-16-1 CAPLUS
CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



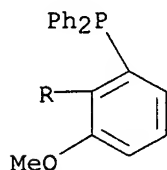
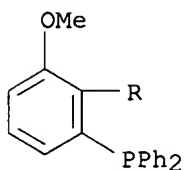
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 153 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:845062 CAPLUS
 DOCUMENT NUMBER: 134:100842
 TITLE: Palladium(0)-catalyzed asymmetric synthesis of 2-vinylmorpholine and 2-vinylpiperazine. Influence of the biscarbonate structure on the enantioselectivity
 AUTHOR(S): Massacret, Magali; Lakhmire, Rajae; Lhoste, Paul; Nguefack, Christelle; Ben Abdelouahab, Fouad B.; Fadel, Rachid; Sinou, Denis
 CORPORATE SOURCE: Laboratoire de Synthèse Asymétrique, associé au CNRS, CPE Lyon, Université Claude Bernard Lyon 1, Villeurbanne, 69622, Fr.
 SOURCE: Tetrahedron: Asymmetry (2000), 11(17), 3561-3568
 CODEN: TASYE3; ISSN: 0957-4166
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 134:100842
 AB Palladium-catalyzed cyclization of N,N-bis(p-tolylsulfonyl)-o-phenylenediamine and 2-[(2,4,6-trimethylphenyl)sulfonyl]aminophenol with three allylic biscarbonates gave quite different enantioselectivities. This indicates that the cyclization processes do not have a common intermediate, as in the case of benzene-1,2-diol.
 IT 133545-17-2, (S)-MeOBiphep
 RL: CAT (Catalyst use); USES (Uses)
 (palladium(0)-catalyzed asym. synthesis of vinylmorpholine and vinylpiperazine)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



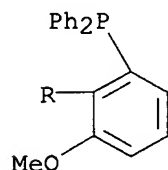
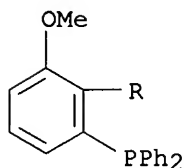
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 154 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:698497 CAPLUS
 DOCUMENT NUMBER: 134:29170
 TITLE: Catalytic asymmetric alkylation in aqueous micelles
 AUTHOR(S): Rabeyrin, C.; Nguetack, C.; Sinou, D.
 CORPORATE SOURCE: Laboratoire de Synthèse Asymétrique, Université Claude Bernard Lyon 1, CPE Lyon, Associé au CNRS, Villeurbanne, 69622, Fr.
 SOURCE: Tetrahedron Letters (2000), 41(39), 7461-7464
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 134:29170
 AB Palladium-catalyzed alkylation of 1,3-diphenyl-2-propenyl acetate with di-Me malonate occurred in water in the presence of surfactants, using K2CO3 as the base. Enantioselectivities of up to 92% were obtained using chiral atropoisomeric diphosphines.
 IT 133545-16-1
 RL: CAT (Catalyst use); USES (Uses)
 (catalytic asym. alkylation in aqueous micelles)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



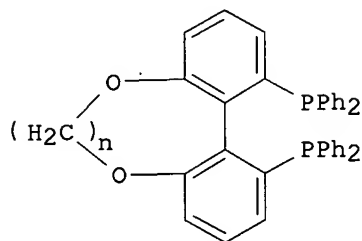
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS

L3 ANSWER 155 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:696268 CAPLUS
DOCUMENT NUMBER: 134:17429
TITLE: Synthesis of (1S,3aS)-8-(2,3,3a,4,5,6-hexahydro-1H-phenalen-1-yl)-1-phenyl-1,3,8-triazaspiro[4.5]decan-4-one, a potent and selective orphanin FQ (OFQ) receptor agonist with anxiolytic-like properties
AUTHOR(S): Wichmann, Jorgen; Adam, Geo; Rover, Stephan; Hennig, Michael; Scalone, Michelangelo; Cesura, Andrea M.; Dautzenberg, Frank M.; Jenck, Francois
CORPORATE SOURCE: Pharma Division, Preclinical Research, F. Hoffmann-La Roche Ltd., Basel, CH-4070, Switz.
SOURCE: European Journal of Medicinal Chemistry (2000), 35(9), 839-851
CODEN: EJMCA5; ISSN: 0223-5234
PUBLISHER: Editions Scientifiques et Medicales Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:17429
AB The development of 8-(2,3,3a,4,5,6-hexahydro-1H-phenalen-1-yl)-1-phenyl-1,3,8-triazaspiro[4.5]decan-4-ones starting from (RS)-8-acenaphten-1-yl-1-phenyl-1,3,8-triazaspiro[4.5]decan-4-one is reported. The synthesis and the binding affinities at human OFQ (nociceptin) and opioid (μ , κ , δ) receptors of the stereoisomers are described. In vitro the most selective compound, (1S,3aS)-8-(2,3,3a,4,5,6-hexahydro-1H-phenalen-1-yl)-1-phenyl-1,3,8-triaza-spiro[4.5]decan-4-one (I), was found to act as a full agonist at the OFQ receptor in the GTP γ 35S binding test. It turned out to be selective vs. a variety of other neurotransmitter systems. When tested in vivo following i.p. injection, compound I was found to decrease neophobia in a novel environment and to exhibit dose-dependent anxiolytic-like effects in the elevated plus-maze procedure, thus confirming the effects observed following intracerebroventricular infusion of the OFQ peptide in rat.
IT 133545-17-2
RL: CAT (Catalyst use); USES (Uses)
(preparation of (phenalenyl)(phenyl)-1,3,8-triazaspiro[4.5]decan-4-one (selective orphanin FQ receptor agonist with anxiolytic-like properties))
RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS

L3 ANSWER 156 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:574233 CAPLUS
 DOCUMENT NUMBER: 133:309942
 TITLE: Synthesis of Chiral Bisphosphines with Tunable Bite
 Angles and Their Applications in Asymmetric
 Hydrogenation of β -Ketoesters
 AUTHOR(S): Zhang, Zhaoguo; Qian, Hu; Longmire, James; Zhang, Xumu
 CORPORATE SOURCE: Department of Chemistry, The Pennsylvania State
 University, University Park, PA, 16802, USA
 SOURCE: Journal of Organic Chemistry (2000), 65(19), 6223-6226
 CODEN: JOCEAH; ISSN: 0022-3263
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 133:309942
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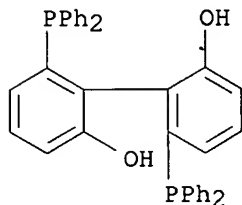
AB A series of chiral bisphosphines I ($n = 1-6$) with tunable dihedral angles were prepared for the first time and used for Ru-catalyzed asym. hydrogenation of β -ketoesters. Enantioselectivities with the Ru-I ($n = 4$) catalyst are comparable or better than those observed with Ru-BINAP and Ru-MeO-BIPHEP complexes, while enantioselectivities in asym. hydrogenation of β -ketoesters are low with other catalysts e.g., Ru-I ($n = 1, 6$). The current study demonstrates the concept that changes in ligand dihedral angles indeed cause significant variations of enantioselectivity.

IT 151395-61-8P

RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation and cyclization with dibromoalkane)

RN 151395-61-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)



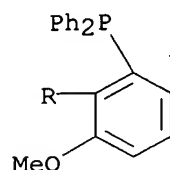
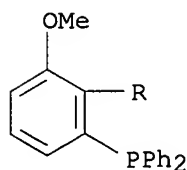
IT 133545-16-1P

RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation and demethylation of)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

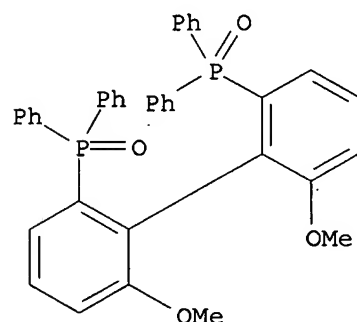


IT 133577-82-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of)

RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-,
(1R)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 157 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:537652 CAPLUS

DOCUMENT NUMBER: 133:281892

TITLE: Electronically and Sterically Induced Structural
Distortions in Square-Planar d8 Complexes

AUTHOR(S): Magistrato, Alessandra; Merlin, Massimo; Pregosin,
Paul S.; Rothlisberger, Ursula; Albinati, Alberto

CORPORATE SOURCE: Laboratory of Inorganic Chemistry, ETH Zentrum,
Zurich, CH-8092, Switz.

SOURCE: Organometallics (2000), 19(18), 3591-3596
CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

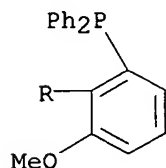
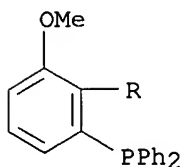
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The solid-state structure of the cationic MeO-Biphep Rh(I) compound

[Rh((S)-MeO-Biphep)(P(OMe)₃)₂]BF₄ (3) was determined by x-ray diffraction. The four P-donors deviate markedly from square-planar geometry, with the phosphite ligands P2 and P2' ca. ±0.61(7) Å from the P1-Rh-P1' plane. This distortion resembles that found for PdBr(p-NCC6H₄)((S)-MeO-Biphep) (1). D. functional calcns. on systematically varied models of 1 reveal three major components to be responsible for the observed distortion from square-planar geometry: (i) attractive aromatic ring π-π interactions, (ii) electronic stabilization of coplanar aromatic rings in pseudo-trans positions, and (iii) P-Ph and MeO-Biphep-Ph intraligand repulsive steric interactions. Addnl. DFT studies on the p-tolyl-Binap analog of 1, PdBr(p-NCC6H₄)((R)-p-Tol-Binap) (2), explain the source of the extremely long Pd-P2 bond distance, 2.437(1) Å, in 2. Despite the structural similarity between 1 and 2, the calcns. rationalize the observation of a pronounced distortion from a square-planar geometry in the former that is essentially absent in the latter.

IT 133545-17-2, (S)-MeO-Biphep
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (substitution reaction of cyclooctadienerrhodium cation complex)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)

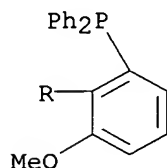
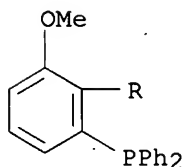


REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

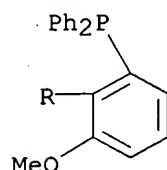
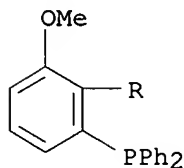
L3 ANSWER 158 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:508701 CAPLUS
 DOCUMENT NUMBER: 133:266282
 TITLE: Asymmetric synthesis of fluorinated β-hydroxy esters via ruthenium-mediated hydrogenation
 AUTHOR(S): Blanc, D.; Ratovelomanana-Vidal, V.; Gillet, J.-P.; Genet, J.-P.
 CORPORATE SOURCE: Laboratoire de Synthèse Selective Organique et Produits Naturels, Associe au CNRS (UMR 7573), Ecole Nationale Sup. De Chimie de Paris, Paris, 75231, Fr.
 SOURCE: Journal of Organometallic Chemistry (2000), 603(1), 128-130
 CODEN: JORCAI; ISSN: 0022-328X
 PUBLISHER: Elsevier Science S.A.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 133:266282
 AB The homogeneous asym. hydrogenation reactions of fluorinated β-keto esters using ruthenium(II) complexes bearing atropoisomeric diphosphines such as BINAP and MeO-BIPHEP have yielded the corresponding β-hydroxy

esters in quant. yield with 42-°95% enantiomeric excess. For example, the bis(η^3 -2-methylpropenyl) (1,5-cyclooctadiene) ruthenium/[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenylphosphine]-catalyzed hydrogenation of 4,4,4-trifluoro-3-oxobutanoic acid Et ester gave (3S)-4,4,4-trifluoro-3-hydroxybutanoic acid Et ester. On the other hand, the bis(η^3 -2-methylpropenyl) (1,5-cyclooctadiene) ruthenium/[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenylphosphine]-catalyzed hydrogenation gave (3R)-4,4,4-trifluoro-3-hydroxybutanoic acid Et ester.

IT 133545-16-1, [(1R)-6,6'-Dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenylphosphine] 133545-17-2, [(1S)-6,6'-Dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenylphosphine]
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of chiral fluoro- β -hydroxy esters via ruthenium-mediated stereoselective hydrogenation of fluoro- β -oxo esters)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



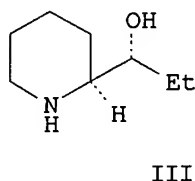
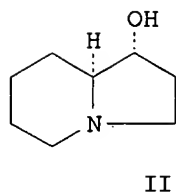
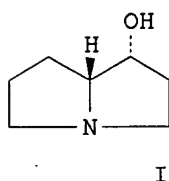
RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



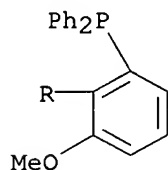
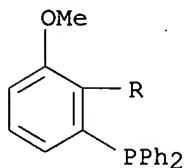
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 159 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:374249 CAPLUS

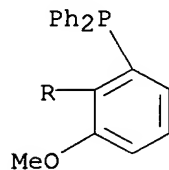
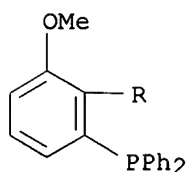
DOCUMENT NUMBER: 133:150755
 TITLE: Asymmetric synthesis of hydroxylated pyrrolizidine, indolizidine, and (+)- α -conhydrine via ruthenium-catalyzed hydrogenation
 AUTHOR(S): Guerreiro, Patricio; Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre
 CORPORATE SOURCE: Laboratoire de Synthèse Selective Organique et Produits Naturels, Paris, F-75231, Fr.
 SOURCE: Chirality (2000), 12(5/6), 408-410
 CODEN: CHRLEP; ISSN: 0899-0042
 PUBLISHER: Wiley-Liss, Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 133:150755
 GI



AB The enantioselective ruthenium promoted hydrogenation of β -keto ester, derived from (S)- or (R)-proline and (S)-pipecolic acid, provided a new efficient route to hydroxylated pyrrolizidine, e.g. I, or indolizidine, e.g. II, ring systems in diastereomeric excesses up to 99%. A practical synthesis of (+)- α -conhydrine (III) is also reported.
 IT 133545-16-1, (R)-MeO-BIPHEP 133545-17-2, (S)-MeO-BIPHEP
 RL: CAT (Catalyst use); USES (Uses)
 (asym. synthesis of hydroxylated pyrrolizidine, indolizidine, and (+)- α -conhydrine via ruthenium-catalyzed hydrogenation)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



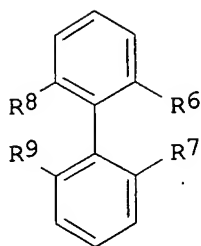
RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



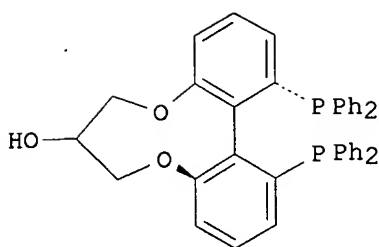
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 160 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:351206 CAPLUS
 DOCUMENT NUMBER: 133:4801
 TITLE: Preparation of chiral diphenyldiphosphines and d-8 metal complexes thereof as hydrogenation catalysts
 INVENTOR(S): Pugin, Benoit; Steiner, Ivo; Aufdenblatten, Rhony Niklaus; Togni, Antonio
 PATENT ASSIGNEE(S): Solvias A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 30 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1002801	A1	20000524	EP 1999-122865	19991117
EP 1002801	B1	20030618		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CA 2290009	A1	20000519	CA 1999-2290009	19991117
US 6281390	B1	20010828	US 1999-441519	19991117
AT 243216	T	20030715	AT 1999-122865	19991117
JP 2000154156	A	20000606	JP 1999-328983	19991119
US 2001056210	A1	20011227	US 2001-899205	20010706
US 6515183	B2	20030204		
US 2003120122	A1	20030626	US 2002-314391	20021209
PRIORITY APPLN. INFO.:			CH 1998-2319	A 19981119
			US 1999-441519	A3 19991117
			US 2001-899205	A3 20010706
OTHER SOURCE(S):		MARPAT 133:4801		
GI				



I



II

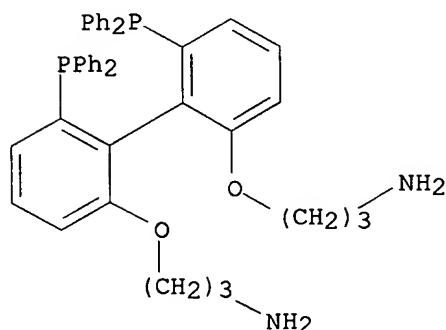
AB The preparation of title compds., I (R6, R7 = same or different secondary phosphino; R8 = CH₂OH, CH₂NH₂, CH₂-O-B-FU, CH₂-NH₂-B-FU, O-B-FU; R9 = same as R8 or C1-4 alkyl, C1-4 alkoxy; R8R9 = HOCH(CH₂O)₂, H₂NCH(CH₂O)₂, FU-B-OCH(CH₂O)₂, FU-B-HNCH(CH₂O)₂; B = bridging group; FU = functional group), useful as cocatalysts for hydrogenation reaction, is described. The compds. may be bonded to inorg. or organic carriers. Their d-8 metal complexes are valuable catalysts for the enantioselective hydrogenation of prochiral organic compds. with carbon multiple bonds or carbon/hetero atom multiple bonds. Thus, reaction of (S)-6,6'-dihydroxydiphenyl-2,2'-diphenyldiphosphine with epibromohydrin in MeCN gave 32.7% title compound II, which was immobilized on silica gel to give the cocatalyst. Hydrogenation of acetamidocinnamic acid with [Rh(NBD)₂]BF₄ catalyst and above cocatalyst is described.

IT 270253-51-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of chiral diphenyldiphosphines and their d-8 metal complexes as hydrogenation catalysts)

RN 270253-51-5 CAPLUS

CN 1-Propanamine, 3,3'-[[[(1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

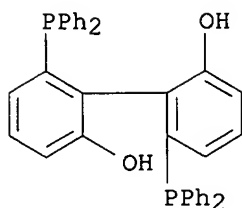


IT 151395-61-8 151395-62-9 270253-34-4

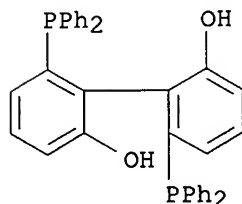
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with epibromohydrin)

RN 151395-61-8 CAPLUS

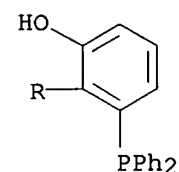
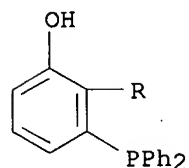
CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)



RN 151395-62-9 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA INDEX NAME)



RN 270253-34-4 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 161 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:199548 CAPLUS
 DOCUMENT NUMBER: 133:58698
 TITLE: Enantioselective synthesis of tetrahydroisoquinolines and benzazepines by silane terminated Heck reactions with the chiral ligands (+)-TMBTP and (R)-BITIANP
 AUTHOR(S): Tietze, Lutz F.; Thede, Kai; Schimpf, Ralph; Sannicolo, Franco
 CORPORATE SOURCE: Institut fur Organische Chemie der Universitat Gottingen, Gottingen, D-37077, Germany
 SOURCE: Chemical Communications (Cambridge) (2000), (7), 583-584
 CODEN: CHCOFS; ISSN: 1359-7345
 PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:58698
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The intramol. Heck reaction of the iodoaryl compound I (R = MeO, n = 1) with a (Z)-allylsilane moiety in the presence of the chiral ligand (+)-TMBTP [(+)-II] leads to the benzazepine III (R = H) with 92% ee, whereas I (R = MeO, n = 1) with an (E)-allylsilane moiety in the presence of the chiral ligand (R)-BITIANP [(R)-IV] gives III (R = SiMe₃) with 91% ee; in a similar way, I (R = H, MeO; n = 0) were transformed in the presence of (+)-II into the tetrahydroisoquinolines V (R = H, MeO) with 86 and 84% ee, resp.

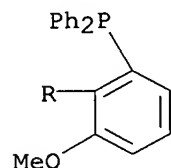
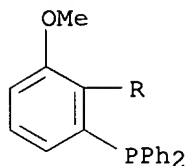
IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of tetrahydroisoquinolines and -benzazepines by silane-terminated Heck reactions with chiral ligands)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 162 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:83793 CAPLUS

DOCUMENT NUMBER: 132:237040

TITLE: A Simple and Efficient Enantioselective Synthesis of 2-Alkylidene-3-alkyl-1,4-benzodioxanes by Palladium-Catalyzed Annulation of Benzene-1,2-diol and Propargylic Carbonates

AUTHOR(S): Labrosse, Jean-Robert; Lhoste, Paul; Sinou, Denis
CORPORATE SOURCE: Laboratoire de Synthèse Asymétrique associée au CNRS
CPE Lyon, CPE Lyon Université Claude Bernard Lyon 1,
Villeurbanne, 69622, Fr.

SOURCE: Organic Letters (2000), 2(4), 527-529
CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 132:237040

AB Benzene-1,2-diol reacts with various propargylic carbonates in the presence of a palladium catalyst and a chiral atropisomeric diphosphine to give 2-alkylidene-3-alkyl-1,4-benzodioxanes in good yields and 56-97% enantiomeric excess.

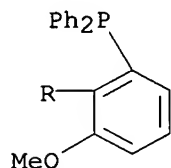
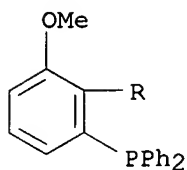
IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(enantioselective synthesis of alkylidenealkylbenzodioxanes by palladium-catalyzed annulation of benzenediol and propargylic carbonates)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 163 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:68200 CAPLUS

DOCUMENT NUMBER: 132:122620

TITLE: Preparation of chiral lactones by asymmetric hydrogenation using an optically active metal diphosphine complex.

INVENTOR(S): Scalone, Michelangelo; Zutter, Ulrich

PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.

SOURCE: Eur. Pat. Appl., 24 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 974590	A1	20000126	EP 1999-112985	19990706
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6222039	B1	20010424	US 1999-349296	19990707
CA 2277443	A1	20000113	CA 1999-2277443	19990709
KR 2000011595	A	20000225	KR 1999-27655	19990709
CN 1243126	A	20000202	CN 1999-110335	19990712
JP 2000044552	A	20000215	JP 1999-197078	19990712
MX 9906505	A	20000331	MX 1999-6505	19990712
CN 1495164	A	20040512	CN 2003-2003155539	19990712
US 6277997	B1	20010821	US 2000-693056	20001020

PRIORITY APPLN. INFO.:

EP 1998-112951

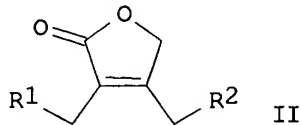
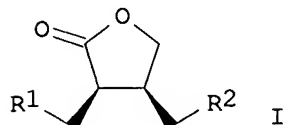
A 19980713

US 1999-349296

A3 19990707

OTHER SOURCE(S):
GI

CASREACT 132:122620; MARPAT 132:122620



AB Title compds. [I; R1 = alkyl, cycloalkyl; R2 = (benzo-fused) (substituted) 5-6 membered (di)oxo-N-heterocyclyl], were prepared by hydrogenation of (II; variables as above) in the presence of an optically active metal diphosphine complex. Thus, 3-(4-cyclopentylmethyl-5-oxo-2,5-dihydrofuran-3-ylmethyl)-1,5,5-trimethylimidazolidine-2,4-dione (preparation given) was hydrogenated in EtOAc containing Rh[(R)-3,5-iPr-MeOBIPHEP](COD)SbF₆ [iPr-MeOBIPHEP = (6,6'-dimethoxybiphenyl-2,2'-diyl)bis[bis(3,5-diisopropylphenyl)phosphine]] at 80° and 100 bar for 71 h to give (3R,4R)-3-(4-cyclopentylmethyl-5-oxotetrahydrofuran-3-ylmethyl)-1,5,5-trimethylimidazolidine-2,4-dione in 98.2% enantiomeric excess and 60% yield after recrystn.

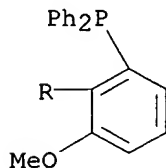
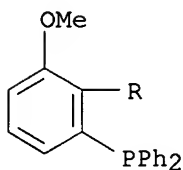
IT 133545-16-1 133577-92-1 145214-57-9
192138-05-9 256235-58-2 256235-59-3
256235-60-6 256235-61-7 256390-42-8
256390-44-0 256390-45-1 256390-46-2
256390-47-3 256390-48-4

RL: CAT (Catalyst use); USES (Uses)

(preparation of chiral lactones by asym. hydrogenation using an optically active metal diphosphine complex)

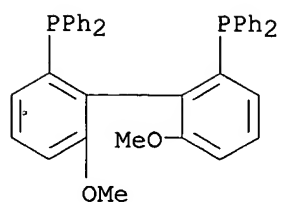
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



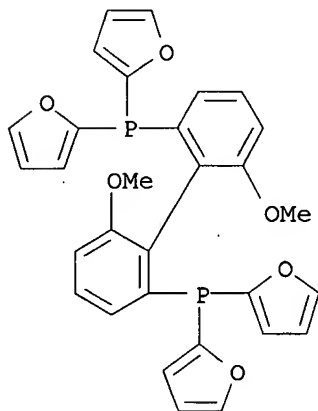
RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
(CA INDEX NAME)



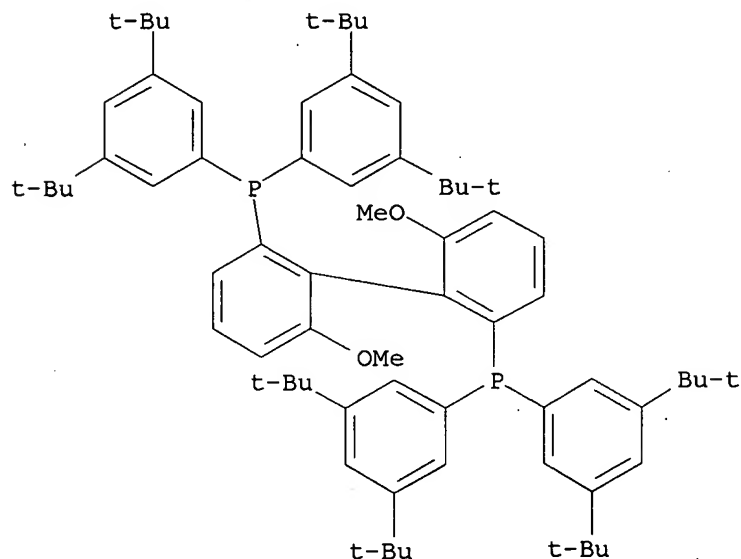
RN 145214-57-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-
(9CI) (CA INDEX NAME)]



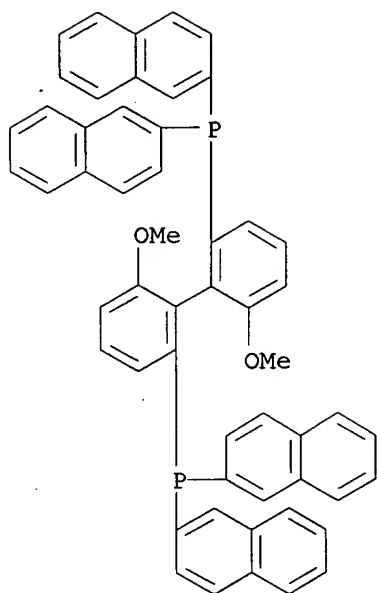
RN 192138-05-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-
bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)]



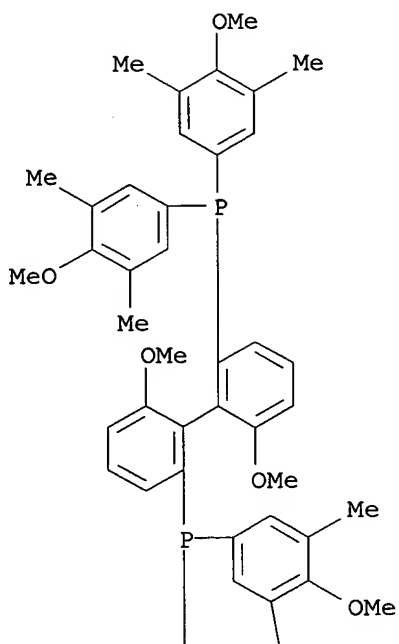
RN 256235-58-2 CAPLUS

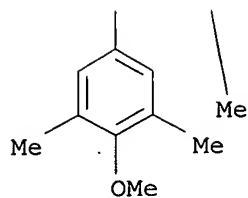
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-naphthalenyl-
(9CI) (CA INDEX NAME)]



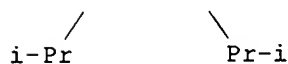
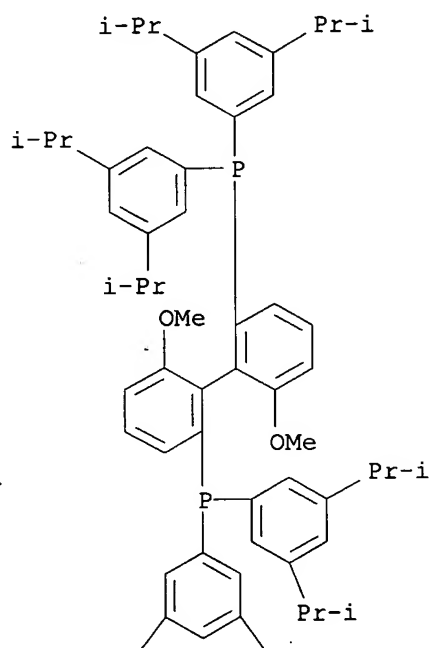
RN 256235-59-3 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxy-3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

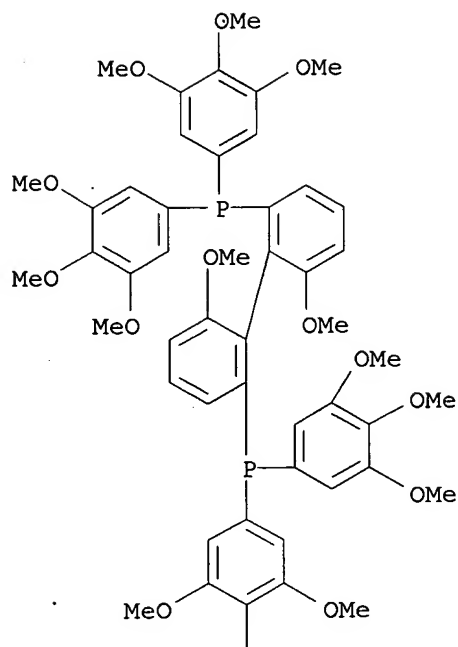




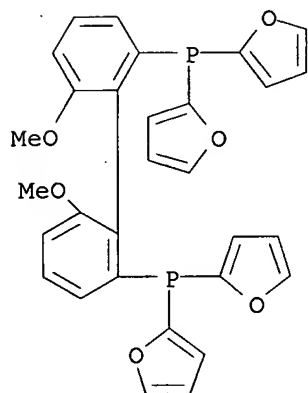
RN 256235-60-6 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(3,5-bis(1-methylethyl)phenyl)- (9CI) (CA INDEX NAME)



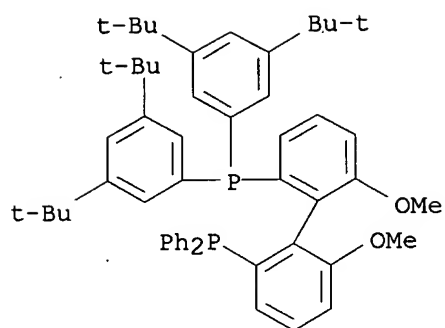
RN 256235-61-7 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(3,4,5-trimethoxyphenyl)- (9CI) (CA INDEX NAME)



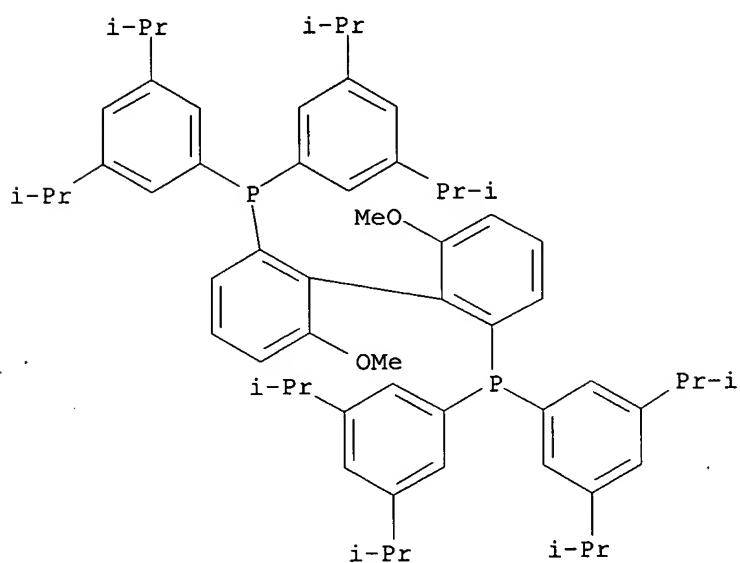
RN 256390-42-8 CAPLUS
 CN Phosphine, [6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-
 (9CI) (CA INDEX NAME)



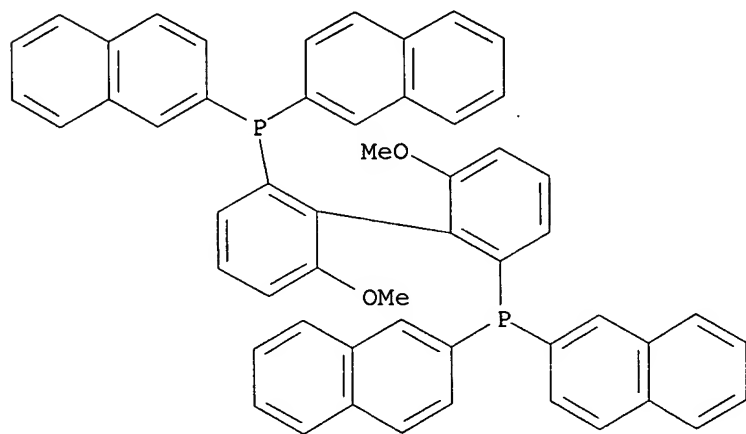
RN 256390-44-0 CAPLUS
 CN Phosphine, bis[3,5-bis(1,1-dimethylethyl)phenyl][2'-(diphenylphosphino)-
 6,6'-dimethoxy[1,1'-biphenyl]-2-yl]- (9CI) (CA INDEX NAME)



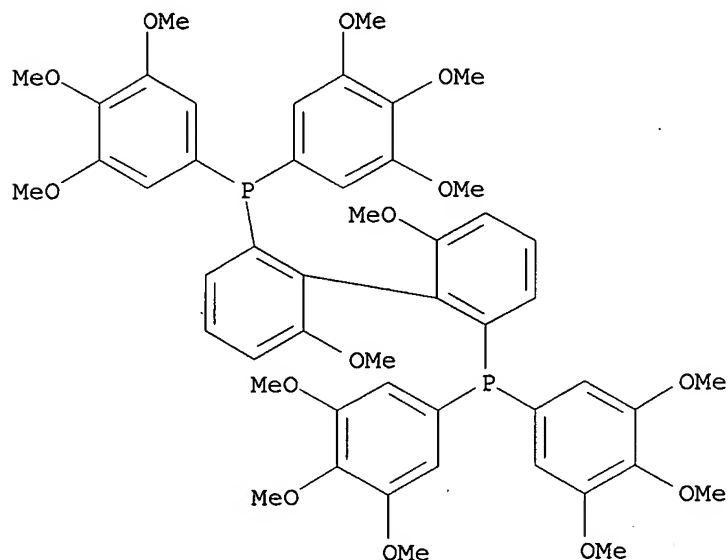
RN 256390-45-1 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



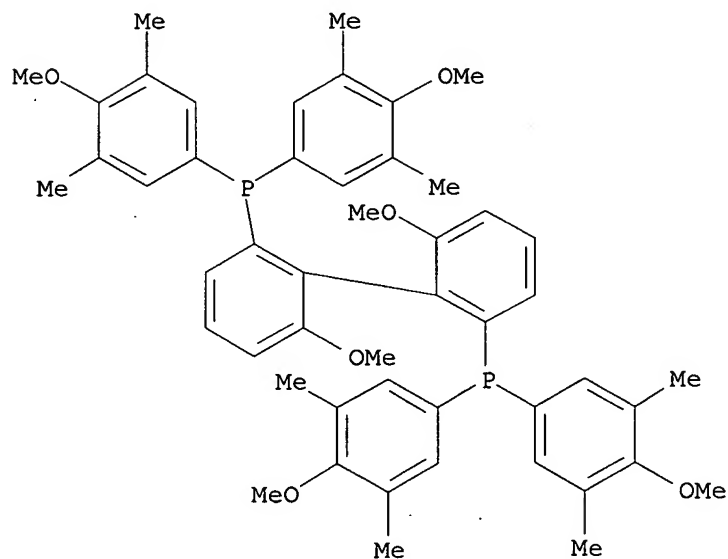
RN 256390-46-2 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-naphthalenyl]- (9CI) (CA INDEX NAME)



RN 256390-47-3 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,4,5-trimethoxyphenyl)- (9CI) (CA INDEX NAME)]



RN 256390-48-4 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxy-3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)]



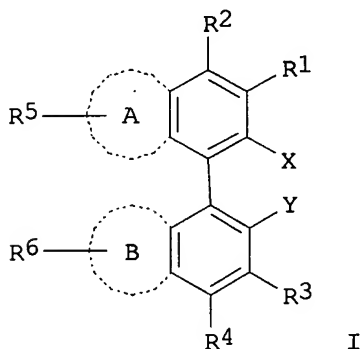
REFERENCE COUNT: 18. THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 164 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:53646 CAPLUS
 DOCUMENT NUMBER: 132:108101
 TITLE: Biaryl phosphine and amine ligands for improved transition metal-catalyzed processes

INVENTOR(S): Buchwald, Stephen; Old, David W.; Wolfe, John P.;
 Palucki, Michael; Kamikawa, Ken; Chieffi, Andrew;
 Sadighi, Joseph P.; Singer, Robert A.; Ahman, Jens
 PATENT ASSIGNEE(S): Massachusetts Institute of Technology, USA
 SOURCE: PCT Int. Appl., 397 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000002887	A2	20000120	WO 1999-US15450	19990709
WO 2000002887	A3	20000629		
W: CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6395916	B1	20020528	US 1998-113478	19980710
US 6307087	B1	20011023	US 1999-231315	19990113
US 6867310	B1	20050315	US 1999-239024	19990127
CA 2336691	A1	20000120	CA 1999-2336691	19990709
EP 1097158	A2	20010509	EP 1999-933785	19990709
EP 1097158	B1	20060125		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
JP 2002520328	T	20020709	JP 2000-559117	19990709
PRIORITY APPLN. INFO.:			US 1998-113478	A 19980710
			US 1998-196855	A 19981120
			US 1999-231315	A 19990113
			US 1999-239024	A 19990127
			US 1997-65970P	P 19971120
			WO 1999-US15450	W 19990709

OTHER SOURCE(S): MARPAT 132:108101
 GI



AB The present invention relates to the preparation of novel biaryl phosphine and amine ligands (I) [wherein A and B = independently fused monocyclic or polycyclic cycloalkyl, cycloalkenyl, aryl, or heterocyclic rings of 4-8 atoms; X = NR₂, PR₂, AsR₂, OR, or SR; Y = NR₂, PR₂, AsR₂, OR, SR, SiR₃, alkyl, or H; R-R₆ = independently H, halogen, (hetero)alkyl, alkenyl, alkynyl, hydroxy, alkoxy, silyloxy, amino, nitro, sulfhydryl, amide, carbonyl, ketone, anhydride, silyl, thioalkyl, ketone, ester, nitrile, (hetero)aryl, etc.] for transition metals and their use in metal-catalyzed carbon-heteroatom and carbon-carbon bond-forming reactions. Unexpected improvements over the prior art were demonstrated in transition

metal-catalyzed aryl amination reactions, Suzuki couplings giving both biaryl and alkylaryl products, arylations and vinylations at the position α to carbonyl groups, and carbon-oxygen bond formation. The ligands and methods of the invention enable transformations utilizing aryl chlorides and bromides at room temperature at synthetically useful rates with extremely small amts. of catalyst relative to the limiting reagent. For example, coupling of p-chlorobenzonitrile and morpholine was catalyzed by 2.5 mol% Pd2(dba)3, 7.5 mol% of 2-(N,N-dimethylamino)-2'-(dicyclohexylphosphino)biphenyl, and NaOBu-t in DME at room temperature to provide 4-(4-morpholinyl)benzonitrile in 96% yield. Thus, the subject processes provide improvements in many features of the transition metal-catalyzed reactions, including the range of suitable substrates, reaction conditions, and efficiency.

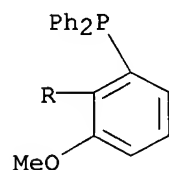
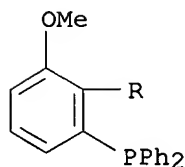
IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(catalyst; preparation of biaryl phosphine and amine ligands for improved palladium-catalyzed amination reactions, Suzuki couplings, arylations, vinylations, and carbon-oxygen bond formation reactions)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



L3 ANSWER 165 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:37891 CAPLUS

DOCUMENT NUMBER: 132:93468

TITLE: Preparation of biphenyl diphosphine oxide by lithiation and oxidative coupling of phenylphosphine oxide

INVENTOR(S): Yokozawa, Susumu; Saito, Takao; Sayo, Noboru; Ishizaki, Takeo

PATENT ASSIGNEE(S): Takasago Perfumery Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

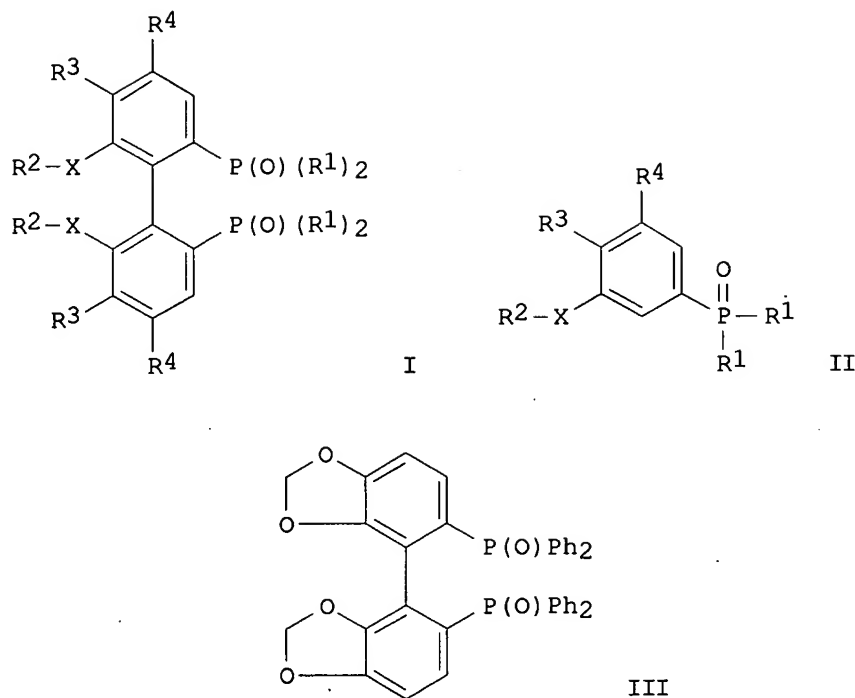
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000016997	A	20000118	JP 1998-181027	19980626
JP 3146187	B2	20010312		
PRIORITY APPLN. INFO.:			JP 1998-181027	19980626
OTHER SOURCE(S):			CASREACT 132:93468; MARPAT 132:93468	

GI



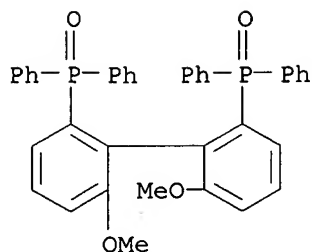
AB The title compds. [I; R1 = cycloalkyl, (un)substituted Ph, naphthyl, pyridyl, quinolyl, isoquinolyl, furfuryl, benzofurfuryl, thienyl, or benzothieryl; R2 = lower alkyl, lower ether, lower haloalkyl, Ph; X = hetero atom; R3, R4 = hydrogen, halogen, lower alkyl, lower alkoxy, di(lower alkyl)amino, lower haloalkyl, Ph; or R2 and R2 or R3 and R4 are linked to each other to form a ring] are prepared by treatment of phosphine oxide (II; R1 - R4, X = same as above) with base followed by dimerization using oxidizing agent. I are useful as intermediates for diphosphine compds. which are ligands of metal coordination compds. for an synthesis catalyst. Thus, a solution of 75.22 g diphenyl(3,4-methylenedioxyphenyl)phosphine oxide in 300 mL THF was added dropwise at -10° to -5° to a solution of lithium diisopropylamide prepared by treatment of 40 mL diisopropylamine in THF with 175 mL 1.7 M BuLi solution and stirred at -12° for 15 min to give a lithium reagent which was added to 5.79 g FeCl3 in 150 mL toluene and 150 mL THF under ice-cooling at 8-10° over 30 min and stirred at room temperature overnight to give 74.8% biphenyl bisphosphine oxide (III).

IT 133545-15-0P

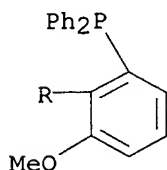
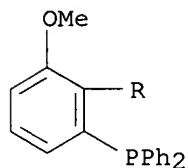
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of biphenyl diphosphine oxide by lithiation and oxidative coupling of phenylphosphine oxide)

RN 133545-15-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-
(9CI) (CA INDEX NAME)

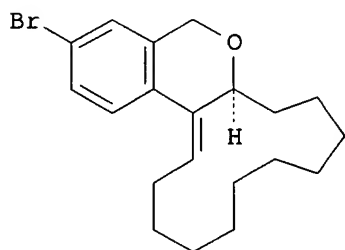


L3 ANSWER 166 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1999:733967 CAPLUS
 DOCUMENT NUMBER: 132:49691
 TITLE: Non-linear effects in ruthenium-catalyzed asymmetric hydrogenation with atropisomeric diphosphines
 AUTHOR(S): Girard, Christian; Genet, Jean-Pierre; Bulliard, Michel
 CORPORATE SOURCE: Laboratoire Synthèse Selective Organique Produits Naturels, Ecole Nationale Supérieure Chimie Paris, Paris, F-75231, Fr.
 SOURCE: European Journal of Organic Chemistry (1999), (11), 2937-2942
 CODEN: EJOCFK; ISSN: 1434-193X
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 132:49691
 AB A strong pos. nonlinear effect (asym. amplification) was found to take place during asym. hydrogenations using chiral atropisomeric diphosphine-Ru catalysts. As an example, at atmospheric pressure the use of 50% ee BINAP to prepare [(binap)Ru(Br)2] give rise to a hydrogenated product with 91% ee. The influence of temperature and H pressure on this effect are presented. These nonlinear effects can be explained on the basis of a hydrogenation mechanism in which diastereomeric dimers as pre-catalytic species are present.
 IT 133545-17-2
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst precursor; nonlinear effects in Ru-catalyzed asym. hydrogenation with atropisomeric diphosphines)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

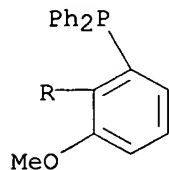
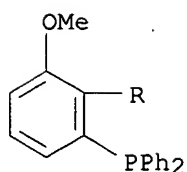


REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 167 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:583928 CAPLUS
DOCUMENT NUMBER: 132:22555
TITLE: Palladium-catalyzed, asymmetric hetero- and carboannulation of allenes using functionally-substituted aryl and vinylic iodides
AUTHOR(S): Zenner, John M.; Larock, Richard C.
CORPORATE SOURCE: Department of Chemistry, Iowa State University, Ames, IA, 50011, USA
SOURCE: Journal of Organic Chemistry (1999), 64(20), 7312-7322
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 132:22555
GI

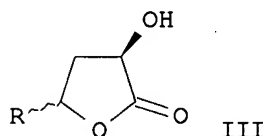
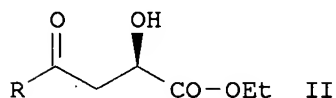


AB Aryl and vinylic iodides, e.g., N-tosyl-2-iodoaniline, with a nucleophilic substituent in the ortho or allylic position, resp., react with 1,2-dienes, e.g., 1,2-cyclotridecadiene, in the presence of a palladium catalyst and a chiral bisoxazoline ligand to afford five- and six-membered ring heterocycles and carbocycles, e.g., I, in good yields and 46-88% enantiomeric excess. The generality of this process has been demonstrated by the use of nucleophilic substituents as varied as tosylamides, alcs., phenols, carboxylic acids, and stabilized carbanions.
IT 133545-17-2
RL: CAT (Catalyst use); USES (Uses)
(effective catalysts in the palladium-catalyzed asym. hetero- and carbocyclization of allenes with aryl and vinylic iodides)
RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



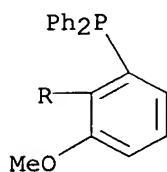
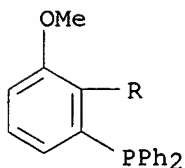
REFERENCE COUNT: 84 THERE ARE 84 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 168 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1999:497063 CAPLUS
 DOCUMENT NUMBER: 131:286348
 TITLE: Asymmetric hydrogenation of 2,4-dioxo esters.
 Selective synthesis of 2-hydroxy 4-oxo esters and
 direct access to chiral 2-hydroxy-4-butyrolactones
 AUTHOR(S): Blandin, Veronique; Carpentier, Jean-Francois;
 Mortreux, Andre
 CORPORATE SOURCE: Laboratoire Catalyse, Ecole Nationale Supérieure
 Chimie Lille, Villeneuve d'Ascq, F-59652, Fr.
 SOURCE: European Journal of Organic Chemistry (1999), (8),
 1787-1793
 CODEN: EJOCFK; ISSN: 1434-193X
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 131:286348
 GI

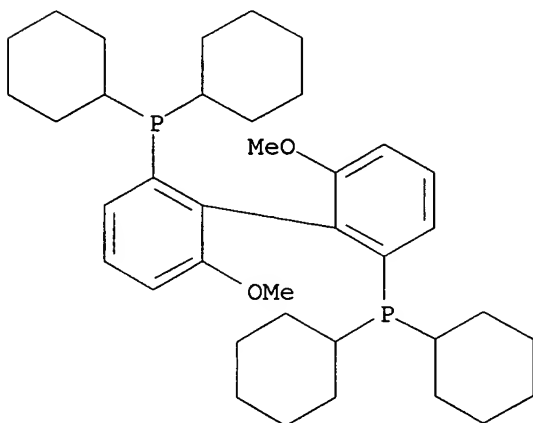


AB 2,4-Dioxo esters $\text{RCOCH}_2\text{COCO}_2\text{Et}$ (I; $\text{R} = \text{Me}, \text{CMe}_3, 2\text{-thienyl}$) are selectively converted into the corresponding optically active 2-hydroxy 4-oxo esters II by hydrogenation with chiral rhodium-aminophosphine-phosphinite catalysts (82-88% ee) or ruthenium-bisphosphine catalysts (52-67% ee). Direct 1-pot hydrogenation of I to the resp. 2-hydroxy-4-butyrolactones III proceeds in high yields. Catalytic activities, chemo-, dia-, and enantioselectivities are strongly dependent

upon the nature of the substrate and the catalyst.
 IT 133545-17-2 246223-35-8
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst containing rhodium cyclooctadiene complex and bisphosphane for
 asym. hydrogenation of dioxo esters with preparation of hydroxy oxo esters
 and hydroxybutyrolactones)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-
 diphenyl- (CA INDEX NAME)



RN 246223-35-8 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclohexyl-
 (9CI) (CA INDEX NAME)

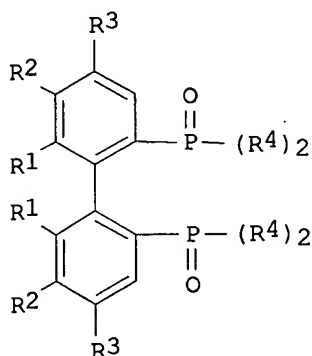


REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

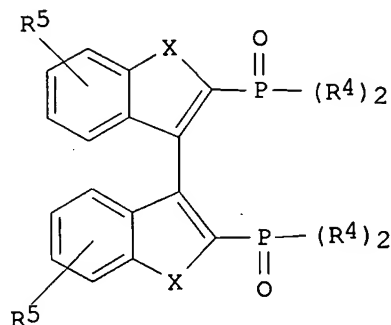
L3 ANSWER 169 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1999:425600 CAPLUS
 DOCUMENT NUMBER: 131:44958
 TITLE: Process for the manufacture of bis(phosphine oxide)
 and bis(phosphonate) compounds
 INVENTOR(S): Foricher, Joseph; Schmid, Rudolf
 PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 17 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent

LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 926152	A1	19990630	EP 1998-123996	19981217
EP 926152	B1	20020911		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6162929	A	20001219	US 1998-212646	19981215
AT 223923	T	20020915	AT 1998-123996	19981217
ES 2182211	T3	20030301	ES 1998-123996	19981217
CA 2256828	A1	19990623	CA 1998-2256828	19981218
JP 11246576	A	19990914	JP 1998-364044	19981222
CN 1224019	A	19990728	CN 1998-125786	19981223
CN 1132839	B	20031231		
PRIORITY APPLN. INFO.:			EP 1997-122720	A 19971223
			EP 1998-123996	A 19981217
OTHER SOURCE(S):		CASREACT 131:44958; MARPAT 131:44958		
GI				



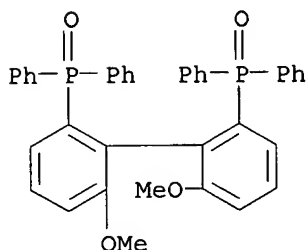
I



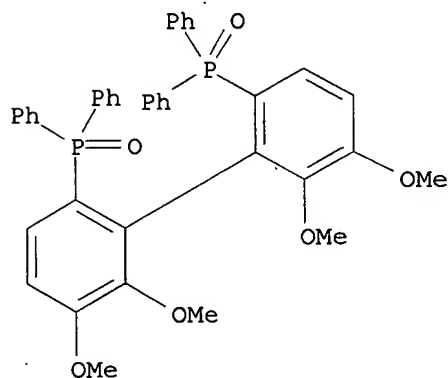
II

AB A process for the manufacture of bisphosphine oxide compds. I and II (R1, R2 = H, C1-8 alkyl, (un)substituted Ph, C1-8 alkoxy, phenyloxy, benzyloxy, halo, di-C1-8 alkylamino; R1R2 = fused ring, etc.; R3, R5 = H, C1-8 alkyl, (un)substituted Ph, C1-8 alkoxy, (un)substituted phenyloxy, benzyloxy, halo, di-C1-8 alkylamino; R4 = C1-8 alkoxy, (un)substituted phenyloxy, C1-8 alkyl, C3-7 cycloalkyl, (un)substituted Ph, naphthyl, heteroaryl, etc.; X = O, S) and bisphosphonates as intermediates for the production of bisphosphine ligands, in which in a single step process (a) a phosphine oxide compound is reacted in an organic solvent at -70°-20° with 0.5-3 equivalent of a lithium or magnesium amide compound, (b) 0.5-3 equivalent of oxidatively-acting metal salt or metal salt complex are added to the mixture obtained in stage (a) in a temperature range of -70°-20°, with a racemate of a bisphosphine oxide compound being obtained; (c) a racemate cleavage is carried out if desired; and (d) the bisphosphonates obtained in stage (b) or (c) are converted into bisphosphine oxides. Thus, Grignard reaction of 3-bromoanisole with P-chlorodiphenylphosphine in THF followed by H2O2 oxidation gave 88.8% (3-methoxyphenyl)diphenylphosphine

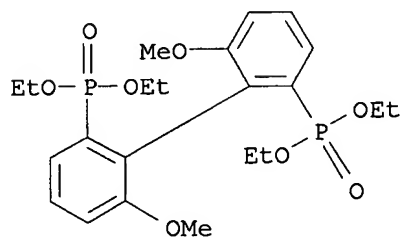
oxide. Coupling reaction of (3-methoxyphenyl)diphenylphosphine oxide in the presence of FeCl₃ gave title compound I (R₁ = OMe, R₂, R₃ = H, R₄ = Ph).
 IT 133545-15-0P 133545-18-3P 145209-14-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 133545-15-0 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-
 (9CI) (CA INDEX NAME)



RN 133545-18-3 CAPLUS
 CN Phosphine oxide, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-
 diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



RN 145209-14-9 CAPLUS
 CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraethyl
 ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 170 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1999:423117 CAPLUS
 DOCUMENT NUMBER: 131:169914

TITLE: [RuCl₂(COD)]_n: a simplified source of Ru(II)-catalysts for the asymmetric hydrogenation of functionalized ketones

AUTHOR(S): Guerreiro, Patricio; Cano de Andrade, Maria-Cristina; Henry, Jean-Christophe; Tranchier, Jean-Philippe; Phansavath, Phannarath; Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre; Homri, Tarek; Touati, Ali Rhida; Ben Hassine, Bechir

CORPORATE SOURCE: Laboratoire de Synthèse Selective Organique et Produits Naturels, UMR 7573, Ecole Nationale Supérieure de Chimie de Paris, Paris, 75231, Fr.

SOURCE: Comptes Rendus de l'Académie des Sciences, Série IIc: Chimie (1999), 2(3), 175-179
CODEN: CASCEN; ISSN: 1387-1609

PUBLISHER: Editions Scientifiques et Médicales Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 131:169914

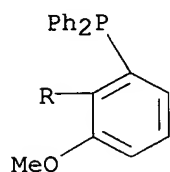
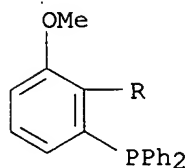
AB A simplified procedure for enantioselective ruthenium-catalyzed hydrogenation of functionalized ketones using com. available [RuCl₂(COD)]_n (COD = cis,cis-cycloocta-1,5-diene) mixed with chiral diphosphines (BINAP, MeO-BIPHEP, DuPHOS) is reported. Under these conditions, C=O groups were completely hydrogenated with excellent enantiomeric excesses (up to 99%).

IT 133545-16-1, Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- 133545-17-2

RL: CAT (Catalyst use); USES (Uses)
([RuCl₂(COD)]_n-diphosphine catalysts for asym. hydrogenation of functionalized ketones)

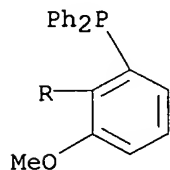
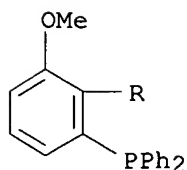
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 171 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN.

ACCESSION NUMBER: 1999:371376 CAPLUS

DOCUMENT NUMBER: 131:214460

TITLE: Chemistry in the ambient field of the alkaloid epibatidine. Part 3. Asymmetric synthesis of both enantiomers of N-protected epibatidine via reductive Heck-type hetarylation

AUTHOR(S): Namyslo, Jan Christoph; Kaufmann, Dieter E.

CORPORATE SOURCE: Institut Organische Chemie, Technische Univ. Clausthal, Clausthal-Zellerfeld, D-38678, Germany

SOURCE: Synlett (1999), (6), 804-806

CODEN: SYNLES; ISSN: 0936-5214

PUBLISHER: Georg Thieme Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 131:214460

AB The enantioselective reductive Heck-type hetarylation of 7-azabicyclo[2.2.1]hept-2-ene-7-carboxylate is presented using several optically active ligands. This asym. reaction provides both enantiomers of protected epibatidine in yields of 30-60% with ≤81% ee.

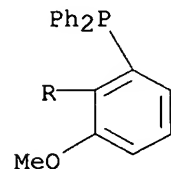
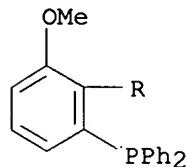
IT 133545-16-1, (R)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(preparation of N-protected epibatidine via stereoselective reductive Heck hetarylation)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)

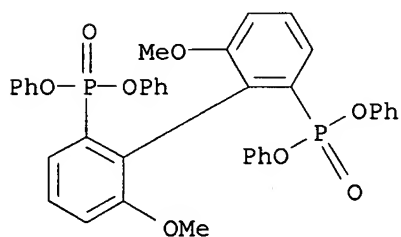


REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 172 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:348800 CAPLUS
DOCUMENT NUMBER: 131:102342
TITLE: Synthesis and use of water-soluble sulfonated dibenzofuran-based phosphine ligands
AUTHOR(S): Gelpke, Arjan E. Sollewijn; Veerman, Johan J. N.; Goedheijt, Marcel Schreuder; Kamer, Paul C. J.; Van Leeuwen, Piet W. N. M.; Hiemstra, Henk
CORPORATE SOURCE: Laboratories of Inorganic and Organic Chemistry, Institute of Molecular Chemistry, University of Amsterdam, Amsterdam, 1018 WS, Neth.
SOURCE: Tetrahedron (1999), 55(21), 6657-6670
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 131:102342

AB The syntheses of three triphenylphosphine analogs with one, two or three Ph groups replaced by 2-dibenzofuranyl groups, resp., and one enantiopure analog of the atropisomeric diphosphine MeO-BIPHEP with all four Ph groups replaced by 2-dibenzofuranyl are reported. Sulfonation of these compds. with sulfuric acid at room temperature proceeded with complete regioselectivity at the 8-position in the dibenzofuran moieties. These results proved the usefulness of dibenzofuran as a structural moiety in the synthesis of water-soluble phosphine ligands. The dibenzofuran-based, water-soluble triphenylphosphine analogs were used as ligands in palladium-catalyzed aqueous phase Heck and Suzuki reactions and in the rhodium-catalyzed two-phase hydroformylation of propene.

IT 145209-12-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and Grignard reaction with dibenzofuranylmagnesium bromide)
RN 145209-12-7 CAPLUS
CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraphenyl ester (9CI) (CA INDEX NAME)

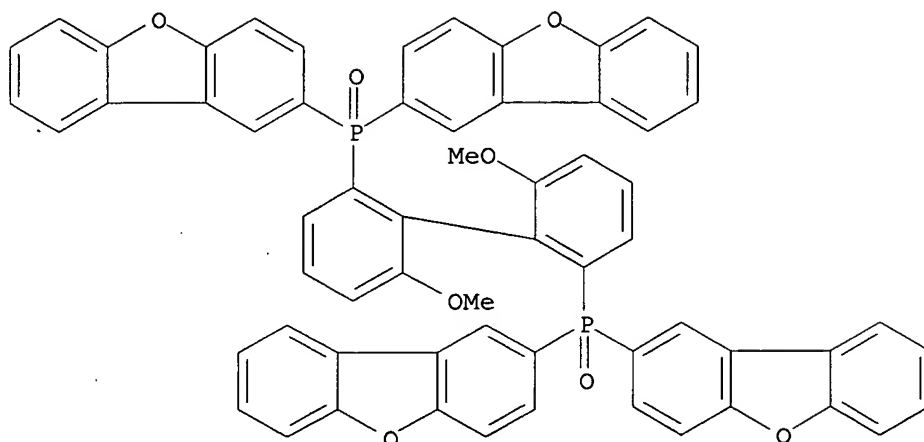


IT 230635-54-8DP, complex
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and decomplexation of)
RN 230635-54-8 CAPLUS
CN Butanedioic acid, 2,3-bis(phenylmethoxy)-, (2R,3R)-, compd. with [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-dibenzofuranylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 230635-53-7

CMF C62 H40 O8 P2

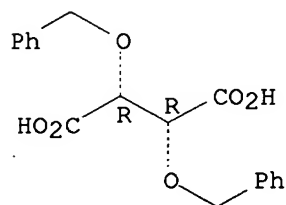


CM 2

CRN 138794-81-7

CMF C18 H18 O6

Absolute stereochemistry. Rotation (-).

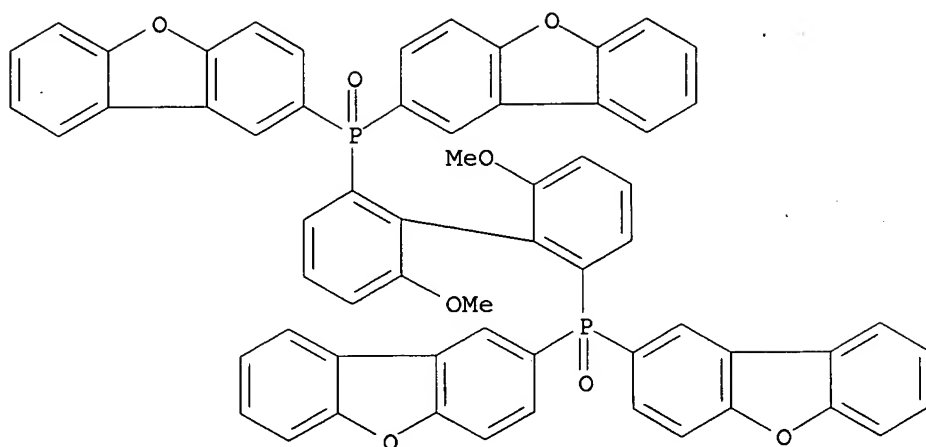


IT 230635-56-0DP, complex 230635-57-1DP, complex
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and hydrolysis of)
RN 230635-56-0 CAPLUS
CN Butanedioic acid, 2,3-bis(phenylmethoxy)-, (2R,3R)-, compd. with
[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-
dibenzofuranylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 230635-55-9

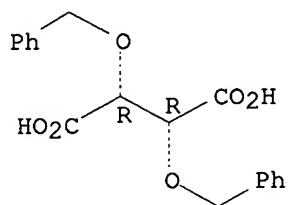
CMF C62 H40 O8 P2



CM 2

CRN 138794-81-7
CMF C18 H18 O6

Absolute stereochemistry. Rotation (-).

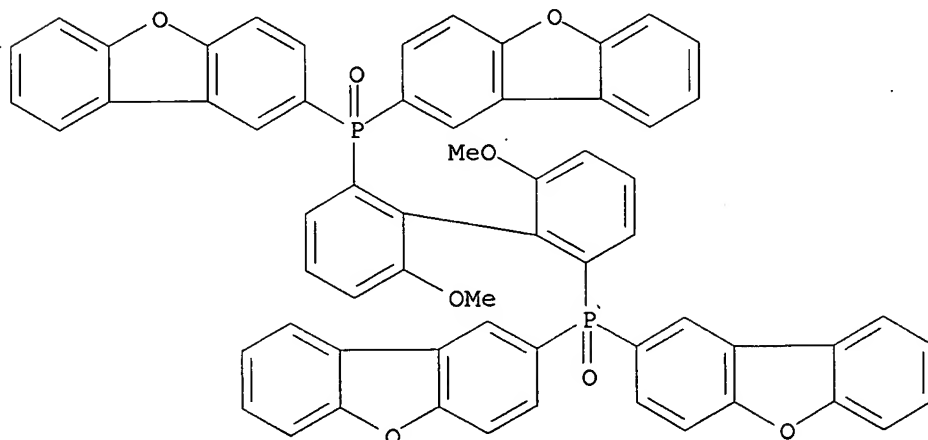


RN 230635-57-1 CAPLUS

CN Butanedioic acid, 2,3-bis(phenylmethoxy)-, (2S,3S)-, compd. with
[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-
dibenzofuranylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 230635-55-9
CMF C62 H40 O8 P2

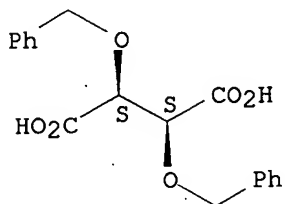


CM 2

CRN 116679-01-7

CMF C18 H18 O6

Absolute stereochemistry. Rotation (+).



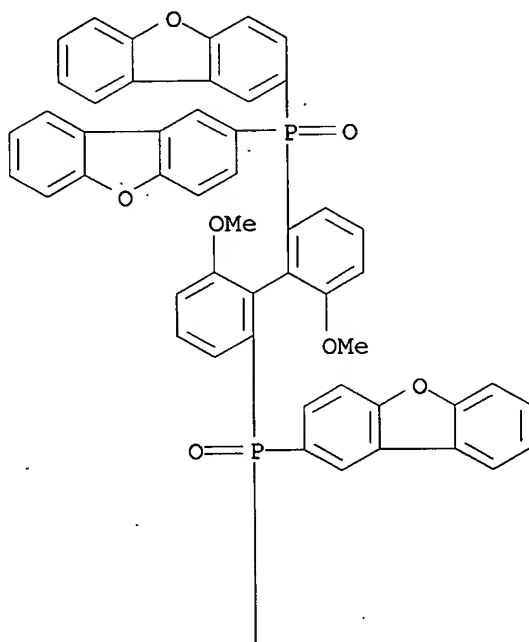
IT 230310-72-2P

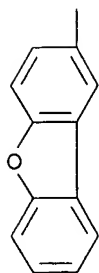
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and optical resolution of)

RN 230310-72-2 CAPLUS

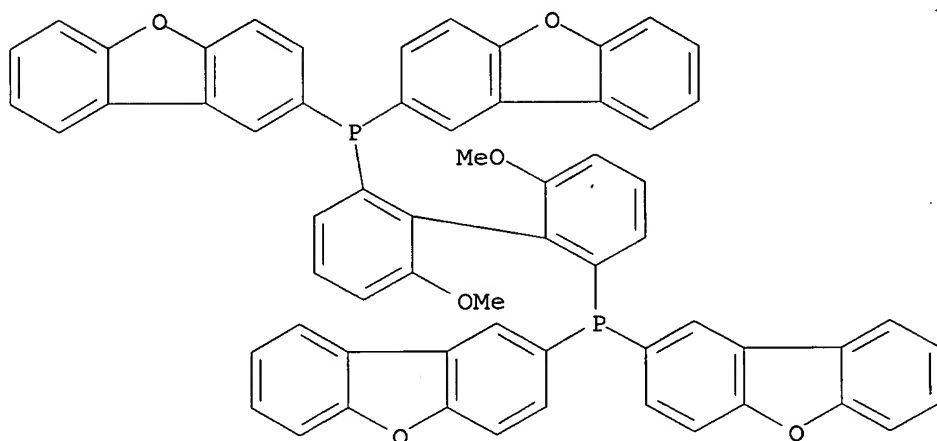
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-dibenzofuranyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

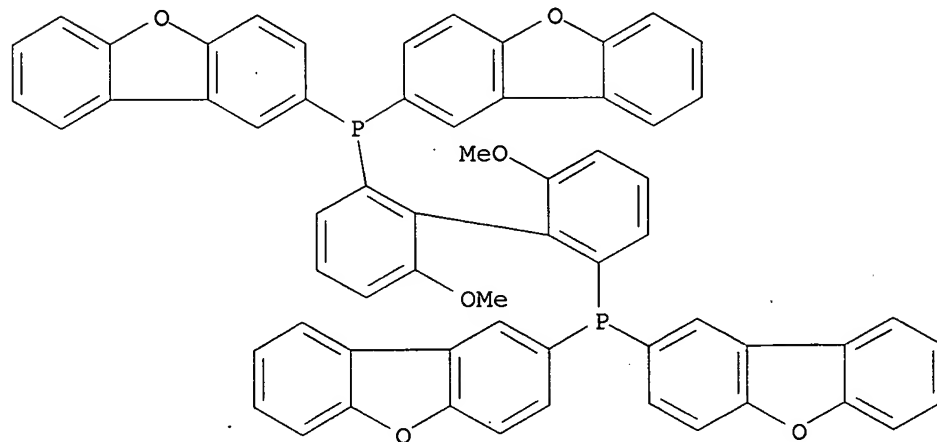




IT 230635-51-5P 230635-58-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and sulfonation of)
 RN 230635-51-5 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(2-
 dibenzofuranyl)- (9CI) (CA INDEX NAME)



RN 230635-58-2 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(2-
 dibenzofuranyl)- (9CI) (CA INDEX NAME)



IT 230635-52-6P 230635-53-7P 230635-55-9P

230635-59-3P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);

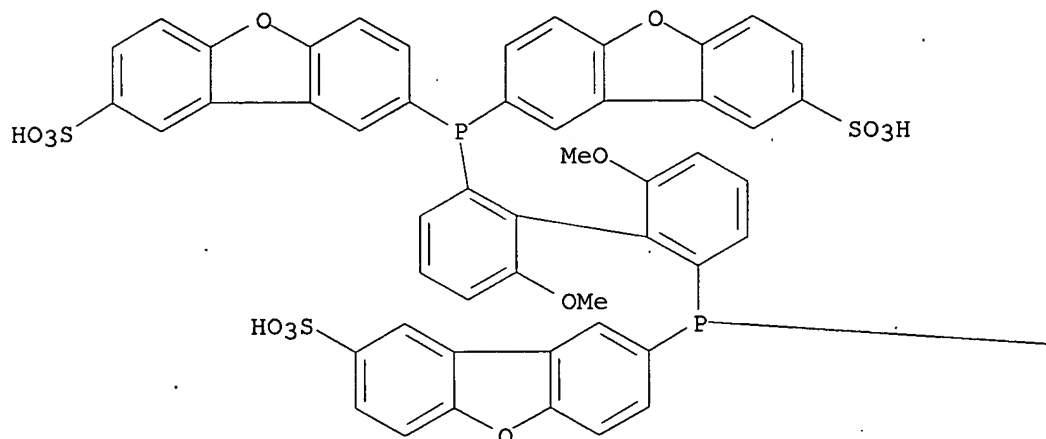
USES (Uses)

(preparation as cocatalyst for Heck and Suzuki reaction and hydroformylation of propene)

RN 230635-52-6 CAPLUS

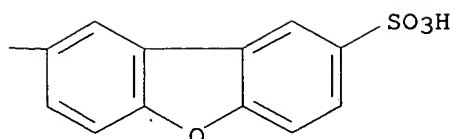
CN 2-Dibenzofuransulfonic acid, 8,8',8'',8'''-[[[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]diphosphinidyne]tetrakis-, tetrapotassium salt (9CI)
(CA INDEX NAME)

PAGE 1-A



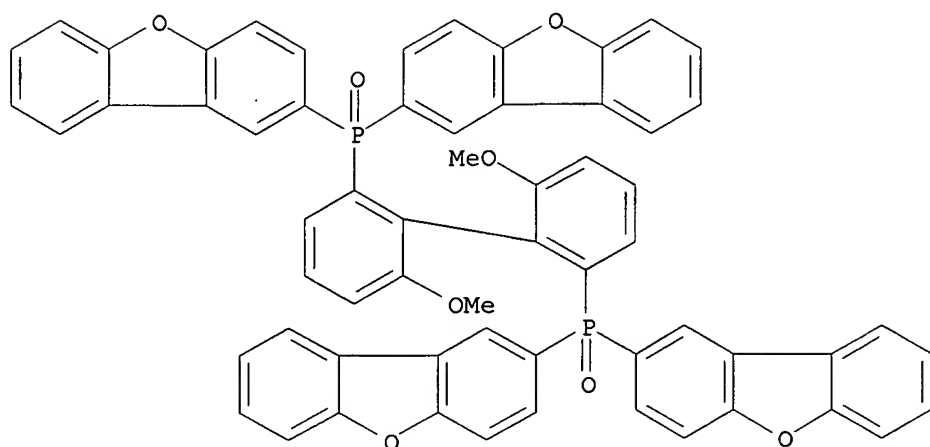
● 4 K

PAGE 1-B

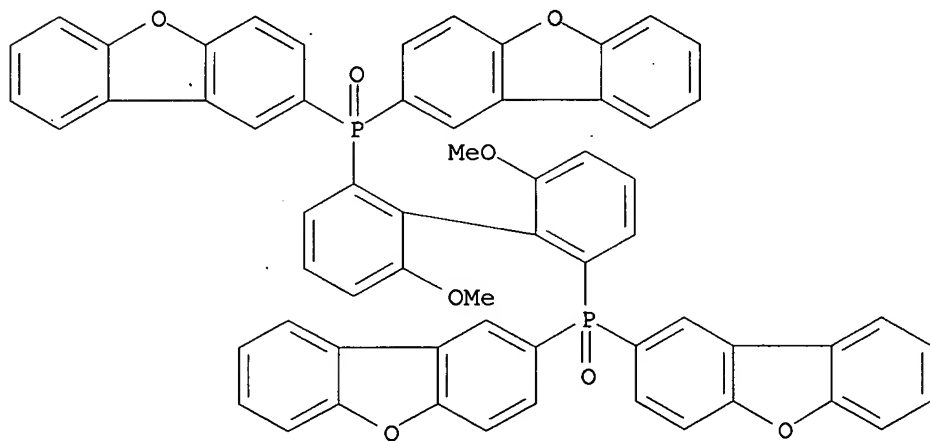


RN 230635-53-7 CAPLUS

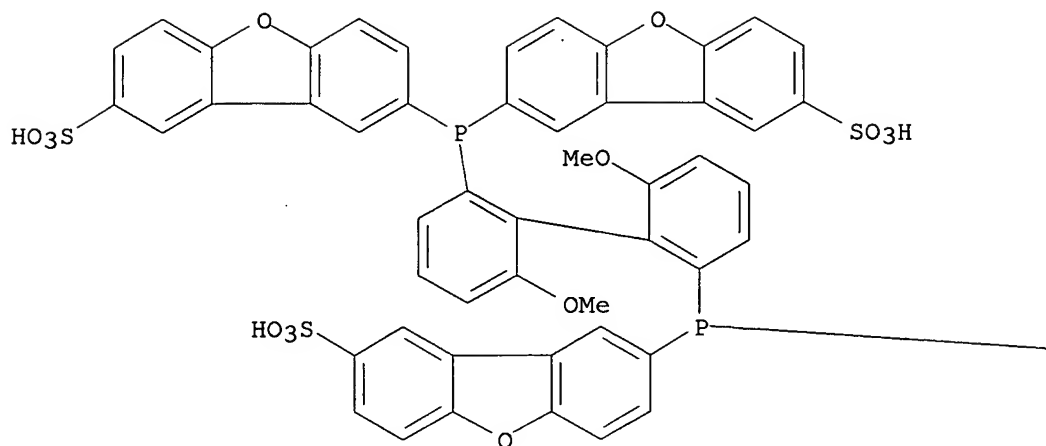
CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-dibenzofuranyl- (9CI) (CA INDEX NAME)



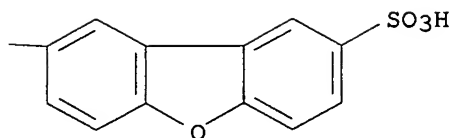
RN 230635-55-9 CAPLUS
 CN Phosphine oxide, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-dibenzofuranyl- (9CI) (CA INDEX NAME)



RN 230635-59-3 CAPLUS
 CN 2-Dibenzofuransulfonic acid, 8,8',8'',8'''-[[[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]diphosphinidyne]tetrakis-, tetrapotassium salt (9CI) (CA INDEX NAME)



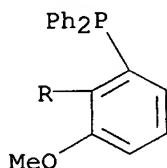
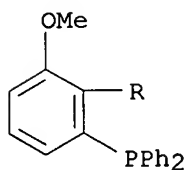
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REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

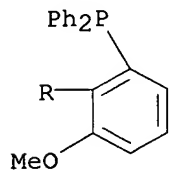
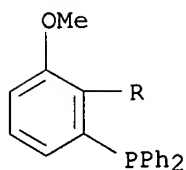
L3 ANSWER 173 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1999:327825 CAPLUS
 DOCUMENT NUMBER: 131:87795
 TITLE: Asymmetric palladium(0)-mediated synthesis of 2-vinylchroman
 AUTHOR(S): Labrosse, Jean-Robert; Poncet, Cecilia; Lhoste, Paul; Sinou, Denis
 CORPORATE SOURCE: Laboratoire de Synthese Asymetrique, associe au CNRS, CPE Lyon, Universite Claude Bernard Lyon 1, Villeurbanne, 69622, Fr.
 SOURCE: Tetrahedron: Asymmetry (1999), 10(6), 1069-1078
 CODEN: TASYE3; ISSN: 0957-4166
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal

LANGUAGE: English
 OTHER SOURCE(S): CASREACT 131:87795
 AB Optically active 2-vinylchroman was synthesized from the corresponding hydroxy allylic carbonate by palladium-catalyzed cyclization in the presence of various chiral ligands. Enantioselectivity of up to 53% was obtained using NMDPP as the chiral phosphine.
 IT 133545-17-2, Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (S)-
 RL: CAT (Catalyst use); USES (Uses)
 (asym. palladium(0)-mediated synthesis of 2-vinylchroman)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

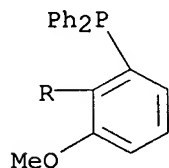
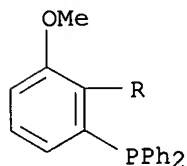


REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 174 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1999:263880 CAPLUS
 DOCUMENT NUMBER: 130:351831
 TITLE: General synthesis of chiral β -hydroxy sulfones via enantioselective ruthenium-catalyzed hydrogenation
 AUTHOR(S): Bertus, P.; Phansavath, P.; Ratovelomanana-Vidal, V.; Genit, J.-P.
 CORPORATE SOURCE: Laboratoire de Synthèse Selective Organique et Produits Naturels (UMR 7573), Ecole Nationale Supérieure de Chimie de Paris, Paris, 75231, Fr.
 SOURCE: Tetrahedron Letters (1999), 40(16), 3175-3178
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 130:351831
 AB A new ruthenium-promoted hydrogenation of β -keto sulfones using MeO-BIPHEP as ligand is reported with complete conversions and enantiomeric excesses over 95%.
 IT 133545-16-1 133545-17-2
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of chiral β -hydroxy sulfones via enantioselective ruthenium-catalyzed hydrogenation of β -keto sulfones)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 175 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1999:57469 CAPLUS
 DOCUMENT NUMBER: 130:223390
 TITLE: Contributions to the Enantioselective Heck Reaction Using MeO-Biphep Ligands. The Case Against Dibenzyldiene Acetone
 AUTHOR(S): Tschoerner, Matthias; Pregosin, Paul S.; Albinati, Alberto
 CORPORATE SOURCE: Laboratory of Inorganic Chemistry, ETH Zentrum, Zurich, 8092, Switz.
 SOURCE: Organometallics (1999), 18(4), 670-678
 CODEN: ORGND7; ISSN: 0276-7333
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 130:223390
 AB The Pd-catalyzed enantioselective Heck reaction of p-XC6H4OTf, X = OMe, H, CO2Me, with dihydrofuran (dhf) gives higher enantioselectivities when the chelating diphosphine MeO-Biphep, 1a, is replaced with its disubstituted analog 3,5-di-tert-Bu MeO-Biphep, 1b. The phenylation of 5-methyl-2,3-dihydrofuran produces a new dhf containing a quaternary stereogenic center (ee, >98% with 1b, .apprx.20% with 1a). Catalytic

results for the reaction of Ph triflate with dhf, together with stoichiometric oxidative addition reactions of aryl halides on Pd complexes of 1, show that the use of Pd(dba)(1), dba = dibenzylidene acetone, slows the oxidative addition relative to the reaction in which the Pd(0) precursor is generated from PdCl₂(1) + NaBH₄. The solid-state structures for two PdI(aryl)(1a), 3, derivs., aryl = p-MeOOC-C₆H₄ (3a) and C₆F₅ (3b) are reported.

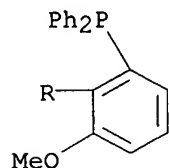
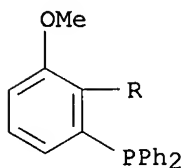
IT 133545-17-2 192138-05-9

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(contributions to the enantioselective Heck reaction as a chiral biphenyldiphosphine ligand with palladium catalyst complex)

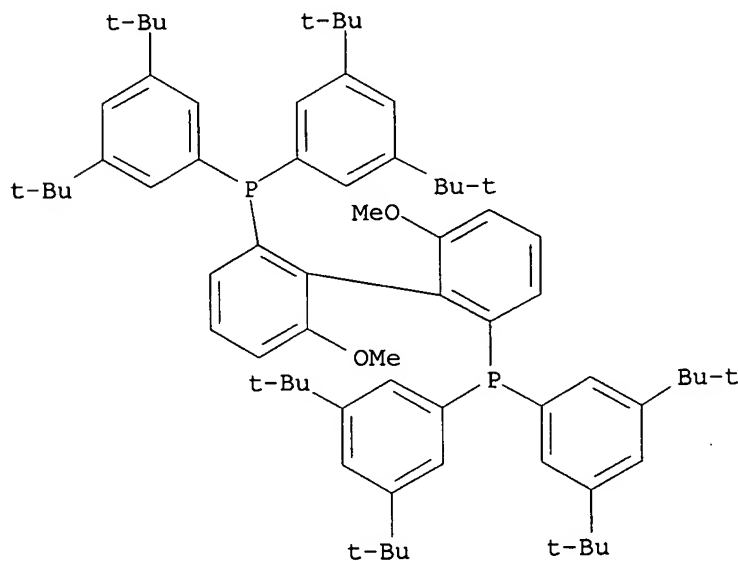
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 192138-05-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

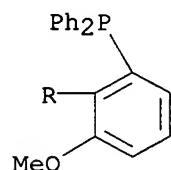
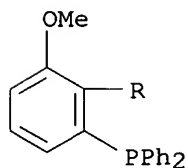


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THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

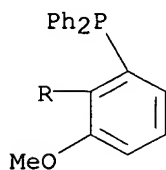
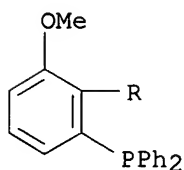
L3 ANSWER 176 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1999:29111 CAPLUS
 DOCUMENT NUMBER: 130:153640
 TITLE: Palladium(0)-catalyzed asymmetric synthesis of
 1,2,3,4-tetrahydro-2-vinylquinoxalines
 AUTHOR(S): Massacret, Magali; Lhoste, Paul; Sinou, Denis
 CORPORATE SOURCE: Laboratoire Synthèse Asymétrique, CPE Lyon, Université
 Claude Bernard, Villeurbanne, F-69622, Fr.
 SOURCE: European Journal of Organic Chemistry (1999), (1),
 129-134
 CODEN: EJOCFK; ISSN: 1434-193X
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 130:153640
 AB The reaction of (Z)-MeO₂COCH₂CH:CHCH₂OCO₂Me with N,N'-bis(arylsulfonyl)-
 1,2-phenylenediamines was catalyzed by a Pd complex associated with chiral
 ligands to give optically active 1,4-bis(arylsulfonyl)-1,2,3,4-tetrahydro-
 2-vinylquinoxalines with ≤62% ee. The use of (S)-[2,6-
 (Ph₂P)(MeO)C₆H₃]₂ as the chiral ligand and N,N'-bis(4-tosyl)-1,2-
 phenylenediamine as the nucleophile led to the highest ee at 25°,
 regardless of the solvent used. The enantioselectivity of the cyclization
 is strongly affected by the nature of the substituents at the N atom.
 IT 133545-17-2
 RL: CAT (Catalyst use); USES (Uses)
 (palladium-catalyzed asym. cyclocondensation of
 (methoxycarbonyloxy)butene with N-(arylsulfonyl)benzenediamines)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)



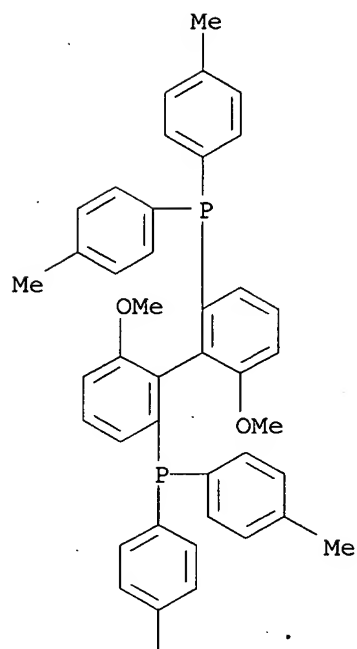
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 177 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1998:694271 CAPLUS
 DOCUMENT NUMBER: 130:66588
 TITLE: A New Phosphinite Chelate, (aryl)₂POBF₂OH, Complexed
 to Ruthenium(II). HBF₄-Induced P-C Bond Cleavage in
 Chiral MeO-Biphep Complexes
 AUTHOR(S): Den Reijer, Carolien J.; Rueegger, Heinz; Pregosin,
 Paul S.
 CORPORATE SOURCE: Laboratorium fuer Anorganische Chemie, ETH Zentrum,
 Zurich, CH-8092, Switz.

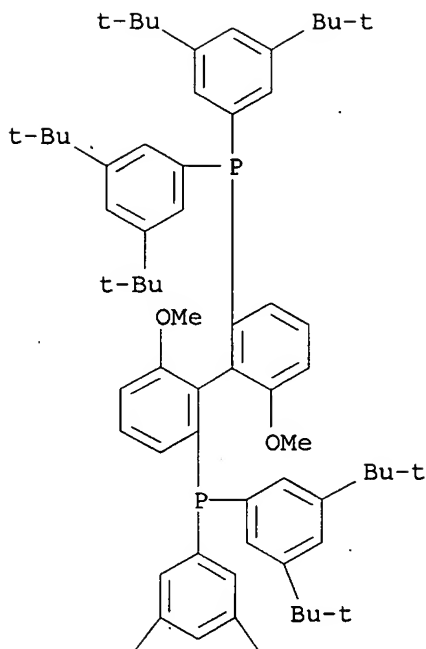
SOURCE: Organometallics (1998), 17(24), 5213-5215
 CODEN: ORGND7; ISSN: 0276-7333
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Reaction of Ru(OAc)₂(MeO-Biphep) (MeO-Biphep = 6,6'-dimethoxybiphenyl-2,2'-diylbis(diarylphosphine)) with 2 equiv of HBF₄ in CH₂Cl₂ cleaves the MeO-Biphep. Products contain the exotic chelate ligand (aryl)₂POB(OH)F₂ (aryl = Ph, p-tolyl, 3,5-di-tert-butylphenyl) together with an (aryl)₂P-η⁶-arene, 8e donor chelate. The reaction involves a fluorophosphine intermediate.
 IT 133545-17-2 133545-25-2 167709-31-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (tetrafluoroborate induced carbon-phosphorus bond cleavage in)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



RN 133545-25-2 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]



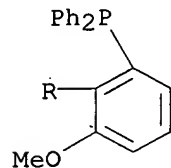
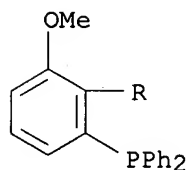
RN 167709-31-1 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

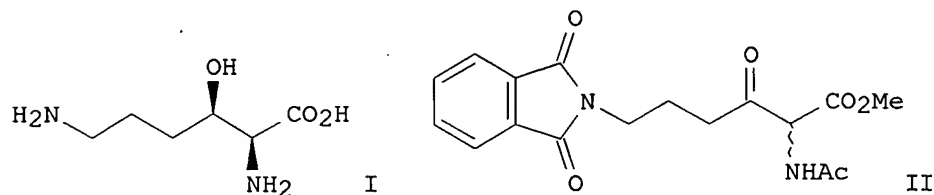
L3 ANSWER 178 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1998:649896 CAPLUS
 DOCUMENT NUMBER: 130:3725
 TITLE: New one pot synthesis of a chiral α -hydroxy- γ -butyrolactone via sequential asymmetric hydrogenation of an α,γ -diketo ester
 AUTHOR(S): Blandin, Veronique; Carpentier, Jean-Francois; Mortreux, Andre
 CORPORATE SOURCE: Laboratoire de Catalyse Heterogene et Homogene associe au CNRS, Groupe de Chimie Organique Appliquee, Ecole Nationale Supérieure de Chimie de Lille, Villeneuve d'Ascq, Fr.
 SOURCE: Tetrahedron: Asymmetry (1998), 9(16), 2765-2768
 CODEN: TASYE3; ISSN: 0957-4166
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 130:3725
 AB The hydrogenation of Et 2,4-dioxovalerate in the presence of chiral rhodium or ruthenium catalysts provides direct access to 2-hydroxy-4-methyltetrahydrofuran-2-one with syn:anti ratios of up to 84:16 and with up to 98% and 94% e.e. in the syn and anti form, resp.
 IT 133545-17-2
 RL: CAT (Catalyst use); USES (Uses)
 (one pot preparation of chiral α -hydroxy- γ -butyrolactone via

sequential asym. hydrogenation of α,γ -diketo ester)
RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



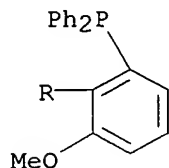
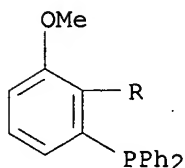
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 179 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:567460 CAPLUS
DOCUMENT NUMBER: 129:276268
TITLE: An efficient synthesis of (2S,3R)-3-hydroxylysine via ruthenium catalyzed asymmetric hydrogenation
AUTHOR(S): Coulon, Estelle; Cristina, Maria; De Andrade, Cano; Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre
CORPORATE SOURCE: Laboratoire de Synthese Selective Organique et Produits Naturels, CNRS, Ecole Nationale Supérieure de Chimie de Paris, Paris, 75231, Fr.
SOURCE: Tetrahedron Letters (1998), 39(36), 6467-6470
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 129:276268
GI



AB An efficient synthesis of the natural occurring amino acid (2S,3R)-3-hydroxylysine (I) is reported. The five step sequence features a highly enantioselective dynamic kinetic resolution of racemic α -acetamido- β -ketophthalimido-hexanoate (II) using ruthenium(II)-catalyzed hydrogenation reaction.
IT 133545-16-1
RL: CAT (Catalyst use); USES (Uses)
(efficient asym. synthesis of hydroxylysine via ruthenium-catalyzed

asym. hydrogenation)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl]- (CA INDEX NAME)



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 180 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:786964 CAPLUS

DOCUMENT NUMBER: 128:114752

TITLE: Practical synthesis of (S)-2-(4-fluorophenyl)-3-methylbutanoic acid, key building block for the calcium antagonist Mibefradil

AUTHOR(S): Cramer, Yvo; Foricher, Joseph; Scalone, Michelangelo; Schmid, Rudolf

CORPORATE SOURCE: Pharmaceuticals Div., Process Res., F. Hoffmann-La Roche AG, Basel, CH-4070, Switz.

SOURCE: Tetrahedron: Asymmetry (1997), 8(21), 3617-3623
 CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 128:114752

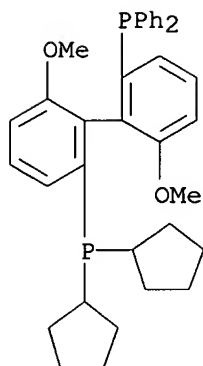
AB A short, tech. feasible route was developed for the synthesis of (S)-2-(4-fluorophenyl)-3-methylbutanoic acid with an overall yield of 80% starting from 4-fluorobenzeneacetic acid. Asym. hydrogenation of the easily accessible unsatd. acid in the presence of ruthenium(II) carboxylato complexes containing chiral atropisomeric diphosphines afforded (S)-2-(4-fluorophenyl)-3-methylbutanoic acid in up to 94% ee. The ee of (S)-2-(4-fluorophenyl)-3-methylbutanoic acid was upgraded to 98% by crystallization of its sodium salt. The same protocol was also applied to the synthesis of (S)-2-(4-chlorophenyl)-3-methylbutanoic acid.

IT 151516-06-2

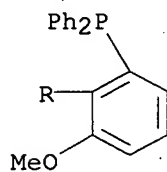
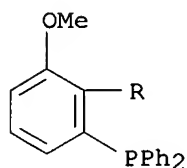
RL: CAT (Catalyst use); USES (Uses)
 (ligand)

RN 151516-06-2 CAPLUS

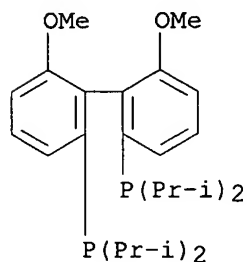
CN Phosphine, dicyclopentyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (R)- (9CI) (CA INDEX NAME)



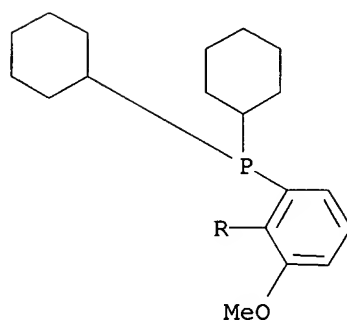
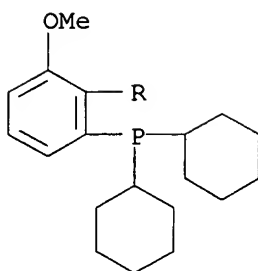
IT 133545-16-1 150971-45-2 172617-14-0
 192138-05-9
 RL: CAT (Catalyst use); USES (Uses)
 (ligand; practical synthesis of fluoro(methylethyl)benzeneacetic acid
 as intermediate for mibefradil)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)



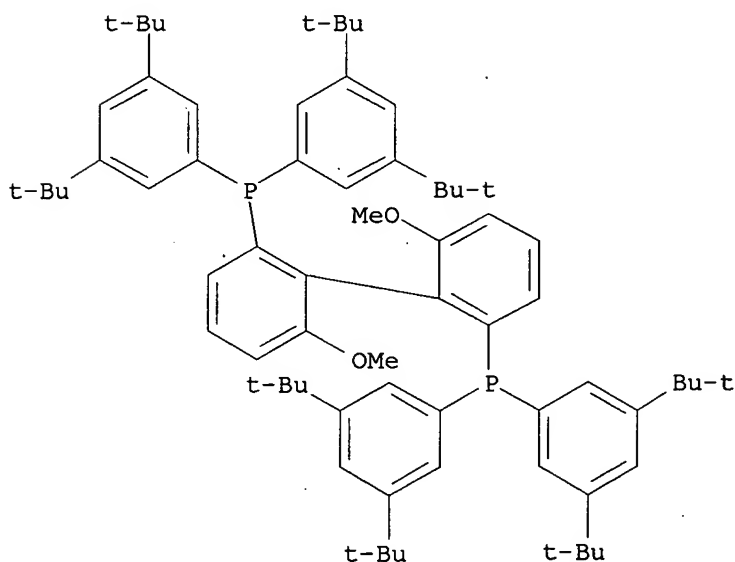
RN 150971-45-2 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-
 methylethyl)- (9CI) (CA INDEX NAME)



RN 172617-14-0 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclohexyl-,
 (R)- (9CI) (CA INDEX NAME)



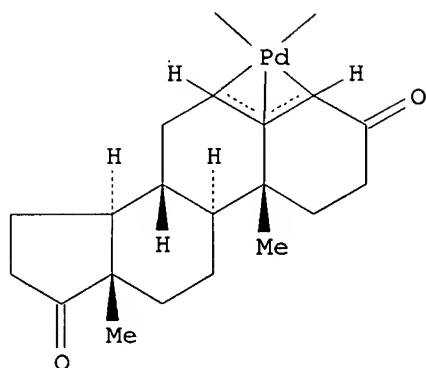
RN 192138-05-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

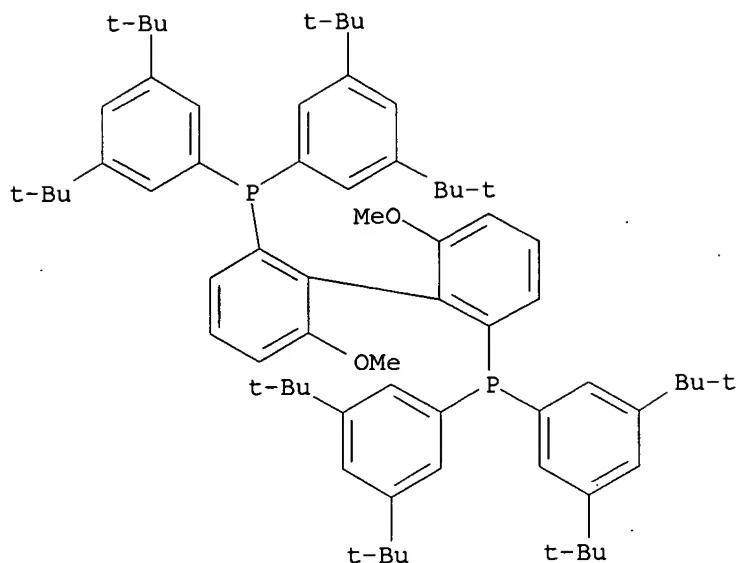
L3 ANSWER 181 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1997:588220 CAPLUS
 DOCUMENT NUMBER: 127:234375

TITLE: Palladium-Allyl Complexes Based on
 3,17-Dioxo-4-Androstene. The Solid-State Structure of
 [Pd(η^3 -C₁₉H₂₉O₂)(R-Binap)]PF₆
 AUTHOR(S): Drommi, Dario; Nesper, Reinhard; Pregosin, Paul S.;
 Trabesinger, Gerald; Zuercher, Fabio
 CORPORATE SOURCE: Laboratorium fuer Anorganische Chemie, ETH Zuerich,
 Zurich, CH-8092, Switz.
 SOURCE: Organometallics (1997), 16(20), 4268-4275
 CODEN: ORGND7; ISSN: 0276-7333
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



I

AB Several π -allyl compds. [Pd(η^3 -C₁₉H₂₉O₂)(bidentate)](anion) (partial structure shown as I), derived from 3,17-dioxo-4-androstene, were prepared (bidentate = R-Binap, 3a; S,S-Chiraphos, 3b; (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(3,5-di-tert-butylphenylphosphine), MeO-Biphep, 3c; the P,S-chelate (2,3,4,6-tetra-O-acetyl-1-((2-diphenylphosphino)benzylthio)- β -D-glucopyranose), 7, phenanthroline, 8, and neocuproin, 9). The solid-state structure of [Pd(η^3 -C₁₉H₂₉O₂)(R-Binap)]PF₆ was determined by x-ray diffraction methods. Probably 3a (and presumably other relatively large allyl complexes) accommodates the two large ligands by both hinging the allyl plane away from the Binap and rotating the allyl ligand. Selected aspects of the solution dynamics for 3a, 3c, and 9 were followed by NOESY methods. Allyl ¹³C NMR data are reported for the complexes.
 IT 192138-05-9, (R)-(6,6'-Dimethoxybiphenyl-2,2'-diyl)bis(3,5-di-tert-butylphenylphosphine)
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (for preparation of palladium dioxoandrostene-based allyl complex with bidentate ligand)
 RN 192138-05-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 72 THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 182 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:564541 CAPLUS

DOCUMENT NUMBER: 127:247856

TITLE: Palladium-catalyzed reactions. Part 1.
Palladium-catalyzed enantioselective hydrophenylation and hydrohetarylation of bicyclo[2.2.1]hept-2-ene. Influence of the chiral ligand, the leaving group, and the solvent

AUTHOR(S): Namyslo, Jan Christoph; Kaufmann, Dieter E.

CORPORATE SOURCE: Institut Organische Chemie, Technische Universitat

SOURCE: Clausthal, Clausthal-Zellerfeld, D-38678, Germany

Chemische Berichte/Recueil (1997), 130(9), 1327-1331

CODEN: CHBRFW

PUBLISHER: Wiley-VCH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The use of optically active biaryl bisphosphines, (S)-2-[2-(diphenylphosphinyl)phenyl]-4-isopropylloxazoline, and (S)-Me₂CHCH(NHSO₂Me)CH₂PPh₂ as ligands in the Pd-catalyzed Heck-type hydroarylation of norbornene with various benzenes and hetarenes leads exclusively to the formation of exo-2-(het)arylnorbornanes with asym. inductions ≤86.4% ee. In addition to an investigation into the effects of different chiral ligands, a systematic study was made on the influence of various (het)aryl compds., leaving groups, and solvents on the chemical and optical yields of this reductive arylation.

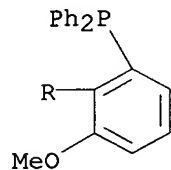
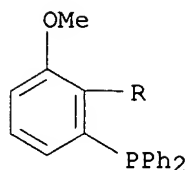
IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(effect of chiral ligand, leaving group, and solvent on palladium-catalyzed asym. hydroarylation of bicycloheptene)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



L3 ANSWER 183 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1997:475955 CAPLUS
 DOCUMENT NUMBER: 127:95383
 TITLE: New Chiral Complexes of Palladium(0) Containing P,S- and P,P-Bidentate Ligands
 AUTHOR(S): Tschoerner, Matthias; Trabesinger, Gerald; Albinati, Alberto; Pregosin, Paul S.
 CORPORATE SOURCE: Laboratorium fuer Anorganische Chemie, ETH Zentrum, Zurich, 8092, Switz.
 SOURCE: Organometallics (1997), 16(15), 3447-3453
 CODEN: ORGND7; ISSN: 0276-7333
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

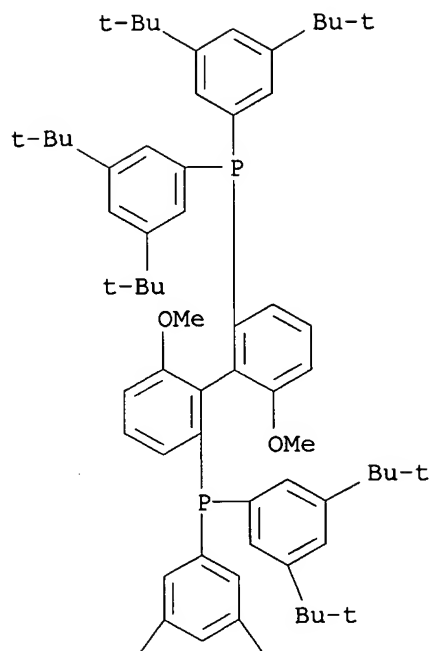
AB New chiral complexes of Pd(0) containing either the bis(phosphine) (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(3,5-di-tert-butylphenylphosphine) (MeO-BIPHEP) or the phosphine-sulfur chelate (2,3,4,6-tetra-O-acetyl-1-((2-diphenylphosphino)benzyl)thio)- β -D-glucopyranose ((2-Ph₂PC₆H₄CH₂)SCHCH(OAc)CH(OAc)CH(OAc)CH(CH₂OAc)O) (2) have been prepared, and the solid-state structure of 2 was determined. These Pd(0) complexes reveal interesting solution dynamics, as shown by 2-dimensional exchange spectroscopy. For the MeO-BIPHEP derivs., one can obtain useful structural insights based on the observed restricted rotation around the aryl(3,5-di-tert-butylphenyl) P-C bonds.

IT 167709-31-1 192138-05-9

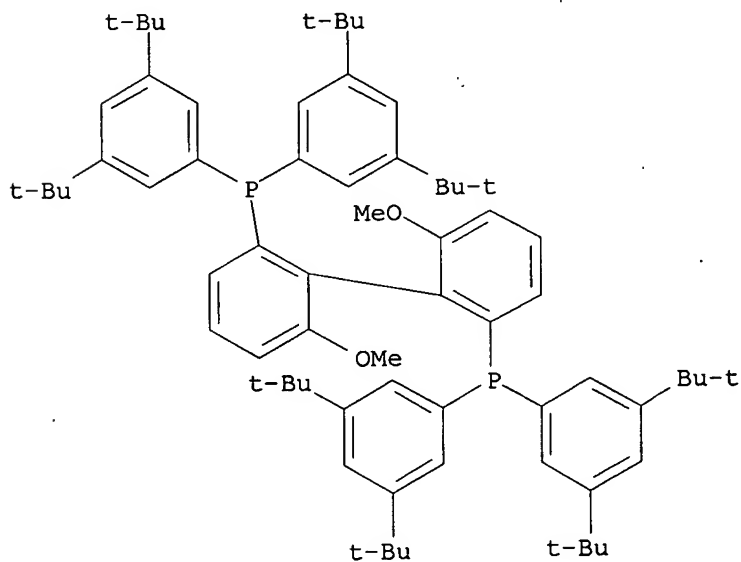
RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of chiral complexes of palladium(0) containing P,S- and P,P-bidentate ligands)

RN 167709-31-1 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



RN 192138-05-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)]



L3 ANSWER 184 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:435818 CAPLUS

DOCUMENT NUMBER: 127:65905

TITLE: Enantioselective Homogeneous Catalysis and the "3,5-Dialkyl Meta-Effect". MeO-BIPHEP Complexes Related to Heck, Allylic Alkylation, and Hydrogenation Chemistry

AUTHOR(S): Trabesinger, Gerald; Albinati, Alberto; Feiken, Nantko; Kunz, Roland W.; Pregosin, Paul S.; Tschoerner, Matthias

CORPORATE SOURCE: Laboratorium fuer Anorganische Chemie, ETH Zentrum, Zurich, 8092, Switz.

SOURCE: Journal of the American Chemical Society (1997), 119(27), 6315-6323

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The enantioselectivities arising from a Pd-catalyzed Heck reaction (>98% ee) and an allylic alkylation (>90% ee) using a 3,5-di-tert-butyl-MeO-BIPHEP chiral auxiliary [1 = 6,6'-dimethoxy-2,2'-bis[bis(3,5-di-tert-butylphenyl)phosphino]biphenyl] are reported. Higher ee's are observed with the 3,5-dialkyl substituents than with the unsubstituted parent MeO-BIPHEP. It is proposed that the observed dialkyl "meta-effect", on enantioselectivity, is the combined result of a more rigid and slightly larger chiral pocket and that this effect will have some generality in homogeneous catalysis. Detailed NMR studies on the allyl complex [Pd(PhCHCHCHPh)(1)]PF₆, and the model hydrogenation catalyst [RuH(cymene)(1)]BF₄ (6), reveal restricted rotation about several of the P-C(ipso) bonds of the phosphorus substituents containing the 3,5-di-tert-Bu groups. The x-ray structure of 6 reveals that the cymene ligand is not sym. bound to the Ru atom. This observation is interpreted as an expression of the chiral pocket of 1. MM3* calcns. on 6 support the NMR findings and reproduce the x-ray results.

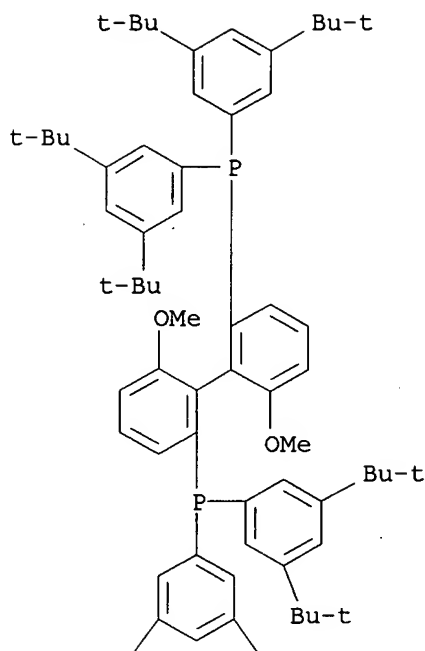
IT 167709-31-1

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(enantioselective Pd-catalyzed Heck reaction and allylic alkylation using 6,6'-dimethoxy-2,2'-bis[bis(3,5-di-tert-butylphenyl)phosphino]biphenyl chiral auxiliary)

RN 167709-31-1 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 185 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1997:303661 CAPLUS
 DOCUMENT NUMBER: 127:50332
 TITLE: Asymmetric hydrogenation of phenylthio ketones with chiral Ru(II) catalysts
 AUTHOR(S): Tranchier, Jean-Philippe; Ratovelamanana-Vidal, Virginie; Genet, Jean-Pierre; Tong, Shaojing; Cohen, Theodore
 CORPORATE SOURCE: Laboratoire de Synthèse Organique, Associé au C.N.R.S., Ecole Nationale Supérieure de Chimie de Paris, Paris, 75231, Fr.
 SOURCE: Tetrahedron Letters (1997), 38(17), 2951-2954
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 127:50332
 AB Asym. hydrogenation of phenylthio ketones using chiral Ru(II) catalysts is reported. Complete conversions and enantiomeric excesses up to 98% were obtained. For example, a catalyst was prepared in situ from (1,5-cyclooctadiene)bis(2-methylallyl)ruthenium and (S)-BINAP in the presence of HBr. The asym. hydrogenation of 4-(phenylthio)-2-butanone with this catalyst gave (S)-4-(phenylthio)-2-butanol in 96% yield and in 98% enantiomeric excess. Similarly, hydrogenation using (1,5-cyclooctadiene)bis(2-methylallyl)ruthenium and (R)-BINAP as catalyst

gave (R)-4-(phenylthio)-2-butanol in 100% yield and in 92% enantiomeric excess.

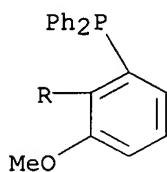
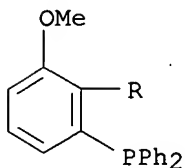
IT 133545-16-1 133545-17-2 145214-57-9

RL: CAT (Catalyst use); USES (Uses)

(ligand; stereoselective hydrogenation of phenylthio ketones with chiral ruthenium catalysts)

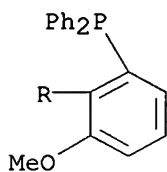
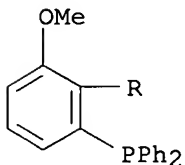
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



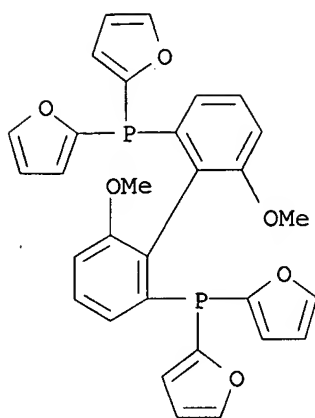
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 145214-57-9 CAPLUS

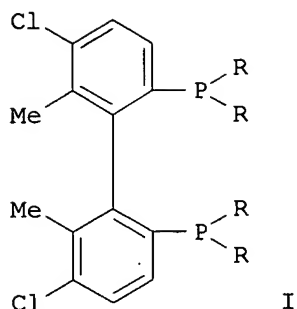
CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-(9CI) (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 186 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1997:94054 CAPLUS
 DOCUMENT NUMBER: 126:104246
 TITLE: Preparation of enantiomerically pure bisphosphines and use of their Group VIII metal complexes as catalysts for asymmetric hydrogenation
 INVENTOR(S): Laue, Christian; Schroeder, Georg; Arlt, Dieter
 PATENT ASSIGNEE(S): Bayer A.-G., Germany
 SOURCE: Eur. Pat. Appl., 13 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 749973	A1	19961227	EP 1996-109252	19960610
EP 749973	B1	20011114		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
DE 19522293	A1	19970102	DE 1995-19522293	19950620
AT 208782	T	20011115	AT 1996-109252	19960610
PT 749973	T	20020429	PT 1996-109252	19960610
ES 2167489	T3	20020516	ES 1996-109252	19960610
US 5710339	A	19980120	US 1996-664073	19960613
TW 427994	B	20010401	TW 1996-85107135	19960614
CA 2179244	A1	19961221	CA 1996-2179244	19960617
CA 2179244	C	20060822		
JP 09003082	A	19970107	JP 1996-175446	19960617
JP 3862784	B2	20061227		
IL 118670	A	20000726	IL 1996-118670	19960617
HU 9601699	A2	19970428	HU 1996-1699	19960620
HU 215283	B	19981130		
US 5801261	A	19980901	US 1997-953473	19971017
PRIORITY APPLN. INFO.:				
			DE 1995-19522293	A 19950620
			US 1996-664073	A1 19960613
OTHER SOURCE(S): CASREACT 126:104246; MARPAT 126:104246				
GI				



AB Enantiomers of I, a procedure for their preparation, their use to make Group VIII metal complexes, and use of the complexes as asym. hydrogenation catalysts are claimed. In I, R = Ph with optionally 1-3 substituents = OR₁, R₁, nitro, NH₂, NHR₁, NR₁₂ (R₁ = C₂-6 alkyl), C₂-7 alkyl, or C₃-7 cycloalkyl. For example, I (R = Ph) was prepared via the following steps: a Grignard reaction of 5-bromo-2-chloroanisole with Ph₂P(O)Cl gave diphenyl(4-chloro-3-methoxyphenyl)phosphine oxide, which was iodinated at the 2 position; coupling of the iodinated derivative using Cu/DMF gave the racemic P,P-dioxide of I, which was resolved by fractional crystallization using

(-)-dibenzoyltartaric acid; the phosphine oxide enantiomers were then reduced by Cl₃SiH in xylene/Bu₃N to give the enantiomers of I. Examples show how Ru complexes of one of the enantiomers catalyzed hydrogenation of 2-(3-benzylphenyl)propenoic acid with 88% enantiomeric excess (ee) and of Me acetate with 97% ee.

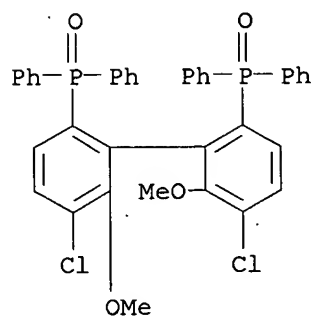
IT 185836-54-8P

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(preparation of enantiomerically pure bisphosphines and use of Group VIII metal complexes as catalysts for asym. hydrogenation)

RN 185836-54-8 CAPLUS

CN Phosphine oxide, (5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



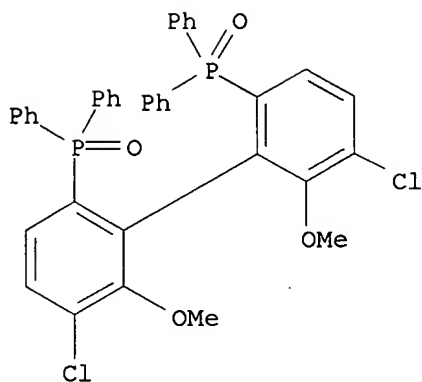
IT 185913-95-5P 185913-96-6P

RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of enantiomerically pure bisphosphines and use of Group VIII metal complexes as catalysts for asym. hydrogenation)

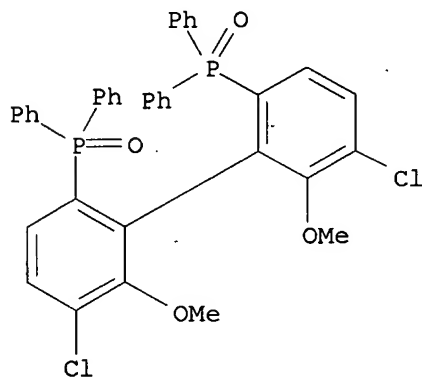
RN 185913-95-5 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 185913-96-6 CAPLUS

CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



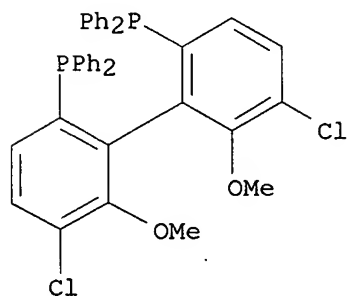
IT 185913-97-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of enantiomerically pure bisphosphines and use of Group VIII metal complexes as catalysts for asym. hydrogenation)

RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]

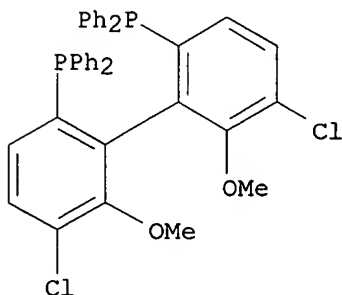


IT 185913-98-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of enantiomerically pure bisphosphines and use of Group VIII metal complexes as catalysts for asym. hydrogenation)

RN 185913-98-8 CAPLUS
CN Phosphine, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



L3 ANSWER 187 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:76990 CAPLUS

DOCUMENT NUMBER: 126:104226

TITLE: (6,6'-Dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine) (MeO-BIPHEP) as a Six-Electron Donor in [Ru(η^5 -C₈H₁₁)(MeO-BIPHEP)]⁺ Cations. Coordination of a Biaryl Double Bond, As Shown by ¹³C NMR and X-ray Crystallography

AUTHOR(S): Feiken, Nantko; Pregosin, Paul S.; Trabesinger, Gerald; Scalone, Michelangelo

CORPORATE SOURCE: ETH Zuerich, Zurich, CH-8092, Switz.

SOURCE: Organometallics (1997), 16(4), 537-543

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

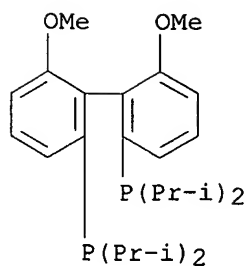
AB The reaction of the MeO-BIPHEP complex Ru(OAc)₂(1a) (1a = (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(bis(3,5-di-tert-butylphenyl)phosphine)), with HBF₄ and 1,5-COD affords [Ru(η^5 -C₈H₁₁)(1a)]BF₄ (4), in which 1a functions as a 6e donor to Ru(II) via an unexpected coordination of one of the biaryl double bonds. The iso-Pr analog [Ru(η^5 -C₈H₁₁)(1b)]CF₃CO₂ (6; 1b = (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diisopropylphosphine)) was prepared by starting from [Ru(CF₃CO₂)₂(1,5-COD)]₂ and reveals the same η^4 -bonding mode. Both complexes were characterized by detailed multidimensional NMR studies, and the x-ray structure for 6 is reported. Although the ³¹P chemical shifts for this new η^4 -bonding mode are informative, the ¹³C resonance positions for the coordinated biaryl carbons are a more reliable criterion for recognizing this type of interaction. These chemical shift data are difficult to obtain using routine ¹³C measurements, and a long-range ¹³C, ¹H-correlation is recommended as the method of choice. Complex 4 exhibits dynamic behavior in solution, as shown by 2-D NOESY. This exchange process can be rationalized by assuming that the double bond dissociates; however, complex 6 does not show an analogous exchange process.

IT 150971-45-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with cyclooctadieneruthenium trifluoroacetate complex)

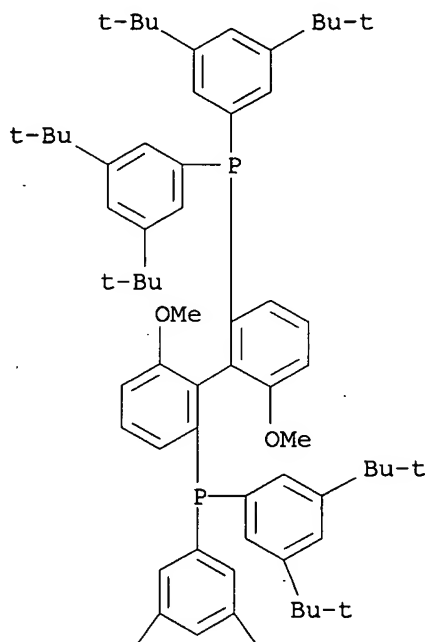
RN 150971-45-2 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)]



IT 167709-31-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with cymene ruthenium acetate complex)
 RN 167709-31-1 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)

PAGE 1-A

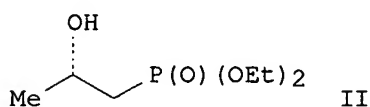
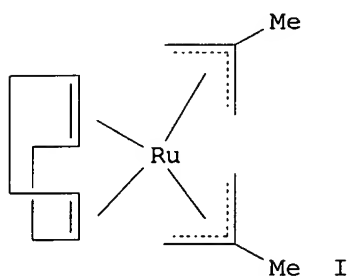


PAGE 2-A



L3 ANSWER 188 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1996:661453 CAPLUS
 DOCUMENT NUMBER: 125:328904
 TITLE: Asymmetric hydrogenation of β -ketophosphonates and β -ketothiophosphonates with chiral Ru(II) catalysts
 AUTHOR(S): Gautier, Isabelle; Ratavelomanana-Vidal, Virginie; Savignac, Philippe; Genet, Jean-Pierre

CORPORATE SOURCE: Lab. Synthèse Org. Assoc., CNRS, Paris, 75231, Fr.
 SOURCE: Tetrahedron Letters (1996), 37(43), 7721-7724
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 125:328904
 GI

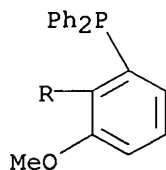
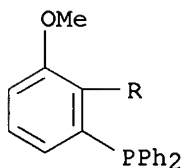


AB Asym. hydrogenation of β -ketophosphonates and β -ketothiophosphonates is described. Enantiomeric excesses up to 99% were obtained. Thus, hydrogenation of $\text{MeCOCH}_2\text{P(O)(OEt)}_2$ with (S)-Binap and Ru-catalyst I gave quant. yield of II with 99% ee.

IT 133545-16-1 133545-17-2
 RL: CAT (Catalyst use); USES (Uses)
 (ruthenium complexes containing chiral ligands for stereoselective hydrogenation of ketophosphonates and ketothiophosphonates)

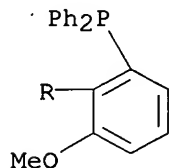
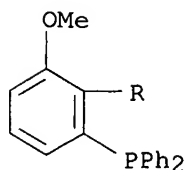
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



L3 ANSWER 189 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:609763 CAPLUS

DOCUMENT NUMBER: 125:248081

TITLE: Asymmetric Hydroformylation of Styrene Catalyzed by Platinum(II)-Alkyl Complexes Containing Atropisomeric Diphosphines

AUTHOR(S): Scrivanti, Alberto; Beghetto, Valentina; Bastianini, Alessandra; Matteoli, Ugo; Menchi, Gloria

CORPORATE SOURCE: Dipartimento di Chimica, Universita di Venezia, Venice, 30123, Italy

SOURCE: Organometallics (1996), 15(22), 4687-4694

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 125:248081

AB [PtMeCl(P-P)] (1, P-P = (S)-6,6'-(dimethoxybiphenyl)-2,2'-diylbis(diphenylphosphine) ((S)-MOBIPH); 2, P-P = (R)-2,2'-bis(diphenylphosphino)-1,1'-binaphthyl ((R)-BINAP); 3, P-P = (2S,3S)-2,3-O-isopropylidene-2,3-dihydroxy-1,4-(diphenylphosphino)butane ((S,S)-DIOP)) in the presence of SnCl₂ catalyze the asym. hydroformylation of styrene. The reaction proceeds under mild conditions (50°, P(H₂) = P(CO) = 50 atm) to give the desired branched aldehyde with moderate regioselectivity. Good enantioselectivities (up to 75%) were obtained using [PtMeCl{(S)-MOBIPH}]. The influence of solvent, temperature, P(H₂), and P(CO) was studied. An impressive influence of the solvent was observed: using [PtMeCl{(R)-BINAP}], the chirality of 2-phenylpropanal obtained in toluene or in THF is opposite to that of 2-phenylpropanal produced in CH₂Cl₂ or acetone. Using [PtMeCl{(S)-MOBIPH}] or [PtMeCl{(R)-BINAP}], an unusual increase of the rate and enantioselectivity of the reaction with increasing P(CO) is observed. To get information on the reaction mechanism, the carbonylation of [PtMe(SnCl₃){(S)-MOBIPH}] (4) was studied. This reaction carried out at room temperature and atmospheric pressure affords an equilibrium mixture containing the cationic

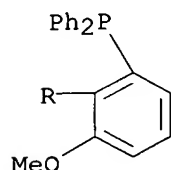
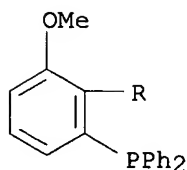
alkyl complex [PtMe(CO){(S)-MOBIPH}]+[SnCl₃]- (6) and the neutral acyl species [Pt(COCH₃)(SnCl₃){(S)-MOBIPH}] (7). The carbonylation of [PtMe(SnCl₃){(R)-BINAP}] (5) proceeds in the same fashion to give [PtMe(CO){(R)-BINAP}]+[SnCl₃]- (8) and [Pt(COCH₃)(SnCl₃){(R)-BINAP}] (9). The preps. are described of 11 platinum complexes.

IT 133545-17-2, (S)-6,6'-Dimethoxybiphenyl-2,2'-diylbis(diphenylphosphine)

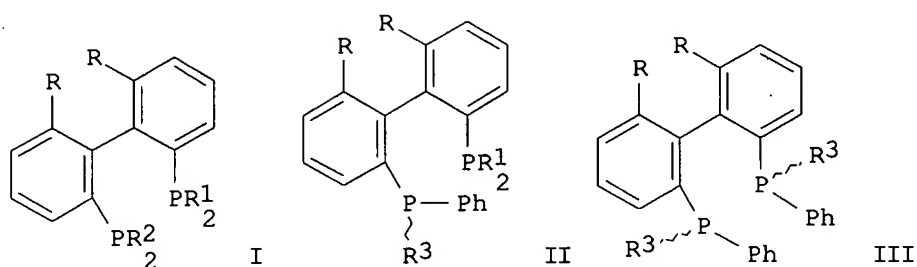
RL: RCT (Reactant); RACT (Reactant or reagent)
(coordinative substitution with platinum COD chloro Me complex)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)



L3 ANSWER 190 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1996:457353 CAPLUS
 DOCUMENT NUMBER: 125:221957
 TITLE: (R)- and (S)-6,6'-dimethyl- and 6,6'-dimethoxy-2,2'-diiodo-1,1'-biphenyls: versatile intermediates for the synthesis of atropisomeric diphosphine ligands
 AUTHOR(S): Cereghetti, Marco; Arnold, Wolf; Broger, Emil A.; Rageot, Alain
 CORPORATE SOURCE: F. Hoffmann-La Roche Ltd., Pharmaceuticals Div., Preclinical Res., Basel, CH-4002, Switz.
 SOURCE: Tetrahedron Letters (1996), 37(30), 5347-5350
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 125:221957
 GI



AB Starting from enantiomerically pure 6,6'-dimethyl- or 6,6'-dimethoxy-2,2'-diiodo-1,1'-biphenyls (1a or 1b) a variety of atropisomeric diphosphine ligands of defined axial chirality are directly accessible in good yields: asym. diphosphines of type B (I) and the corresponding diphosphines with one (type C) (II) or two (type D) (III) (R = Me, OMe; R1 = Ph, p-MeC6H4; R2 = Et, α -thienyl, cyclohexyl, etc.; R3 = tBu, cyclohexyl) stereogenic P atoms. Pitfalls of the lithiation/phosphination reaction are discussed. The number of P-chiral diastereomers can be reduced by thermal epimerization.

IT 151489-75-7P 151489-77-9P 151489-80-4P

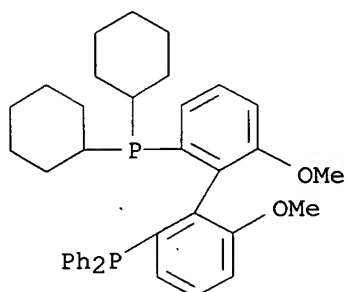
151489-82-6P 151489-89-3P 151516-07-3P

181257-17-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

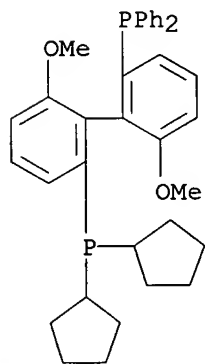
RN 151489-75-7 CAPLUS

CN Phosphine, dicyclohexyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (R)- (9CI) (CA INDEX NAME)



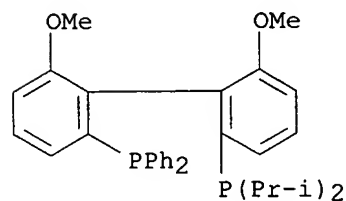
RN 151489-77-9 CAPLUS

CN Phosphine, dicyclopentyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)



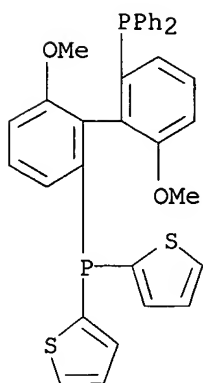
RN 151489-80-4 CAPLUS

CN Phosphine, [2'-[bis(1-methylethyl)phosphino]-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)



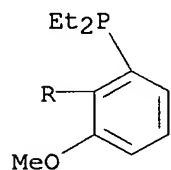
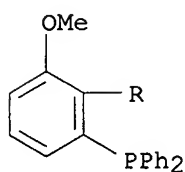
RN 151489-82-6 CAPLUS

CN Phosphine, [2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]di-2-thienyl-, (S)- (9CI) (CA INDEX NAME)



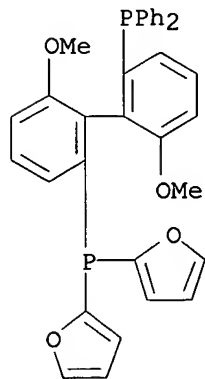
RN 151489-89-3 CAPLUS

CN Phosphine, [2'-(diethylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)



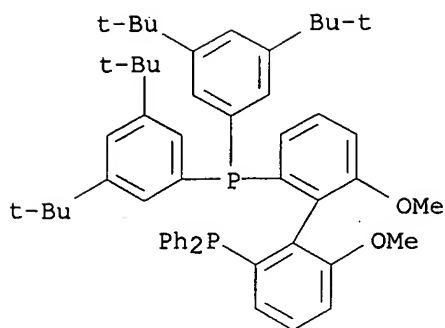
RN 151516-07-3 CAPLUS

CN Phosphine, [2'-(di-2-furanylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)

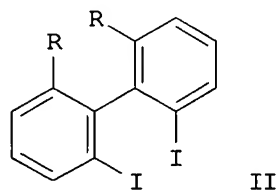
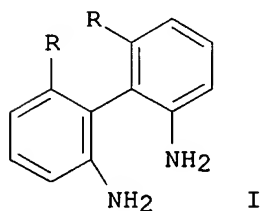


RN 181257-17-0 CAPLUS

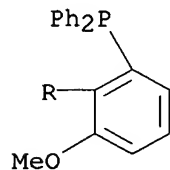
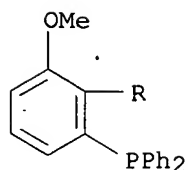
CN Phosphine, bis[3,5-bis(1,1-dimethylethyl)phenyl][2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)



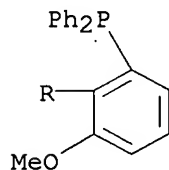
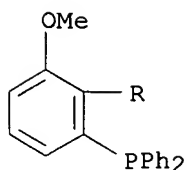
L3 ANSWER 191 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1996:457352 CAPLUS
 DOCUMENT NUMBER: 125:221274
 TITLE: An efficient access to (R)- and (S)-6,6'-dimethoxy-2,2'-diiodo-1,1'-biphenyl
 AUTHOR(S): Cereghetti, Marco; Schmid, Rudolf; Schoenholzer, Peter; Rageot, Alain
 CORPORATE SOURCE: F. Hoffmann-La Roche Ltd., Pharmaceuticals Div., Preclinical Res., Basel, CH-4002, Switz.
 SOURCE: Tetrahedron Letters (1996), 37(30), 5343-5346
 CODEN: TELEAY; ISSN: .0040-4039
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB In a better procedure than the known for (rac)-I (R = Me), the diamine (rac)-I (R = MeO) was resolved for the first time with the new resolving agent (R,R)- and (S,S)-2,3-di(phenylaminocarbonyl) tartaric acid (40-45% weight yields; >99% ee). The diamines (R)- or (S)-I (R = Me, MeO) were converted with >98% stereochem. retention into the diiodides (R)- and (S)-II and subsequently, without loss of optical purity, diphenylphosphinated to the known diphosphines.
 IT 133545-16-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of (R)- and (S)-6,6'-dimethoxy-2,2'-diiodo-1,1'-biphenyl)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl]- (CA INDEX NAME)



L3 ANSWER 192 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1996:42703 CAPLUS
 DOCUMENT NUMBER: 124:202507
 TITLE: Kinetic resolution of racemic tricarbonyl(2-chloroanisole)chromium via palladium-catalyzed asymmetric alkoxy carbonylation
 AUTHOR(S): Carpentier, Jean-Francois; Pamart, Laurent; Maciewjeski, Lucien; Castanet, Yves; Brocard, Jacques; Mortreux, Andre
 CORPORATE SOURCE: Group Chimie Organique Appliquee, Ecole Nationale Supérieure Chimie Lille, Villeneuve d'Ascq, 59652, Fr.
 SOURCE: Tetrahedron Letters (1996), 37(2), 167-70
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 124:202507
 AB Tricarbonyl(o-chloroanisole)chromium was treated with an alc. and CO in the presence of NEt₃ and a chiral Pd catalyst to give (o-methoxybenzoate ester)Cr(CO)₃ complexes in high selectivity with up to 30% ee. Starting tricarbonyl(o-chloroanisole)chromium was recovered in up to 39% ee. The Pd/PPFA catalytic system exhibited high reactivity and selectivity for the carbonylation reaction.
 IT 133545-17-2
 RL: CAT (Catalyst use); USES (Uses)
 (kinetic resolution of racemic tricarbonyl(chloroanisole)chromium via palladium-catalyzed asym. alkoxy carbonylation)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)



L3 ANSWER 193 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:34342 CAPLUS

DOCUMENT NUMBER: 124:87929

TITLE: Regio- and stereoregular copolymerization of propene with carbon monoxide catalyzed by palladium complexes containing atropisomeric diphosphine ligands

AUTHOR(S): Bronco, Simona; Consiglio, Giambattista

CORPORATE SOURCE: Eidgenoessische Technische Hochschule, Lab. Tech. Chemie, ETH-Zentrum, Zurich, CH-8092, Switz.

SOURCE: Macromolecular Chemistry and Physics (1996), 197(1), 355-65

CODEN: MCHPES; ISSN: 1022-1352

PUBLISHER: Huethig & Wepf

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The use of palladium catalysts, modified by chelate diphosphine ligands based on a di-Ph atropisomeric moiety, permits a good control of regio- and stereochem. in the alternating copolymn. of propene with carbon monoxide. The completely aromatic ligands (S)-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine) and (S)-(6,6'-dimethylbiphenyl-2,2'-diyl)bis(diphenylphosphine) give regioirregular materials. Their stereoregularity cannot be easily evaluated but appears to be rather low on the basis of optical activity detns. Completely regioregular copolymn. takes place when ligands containing sterically hindered alkyl substituents on the phosphorus atoms (such as cyclohexyl or isopropyl) are used. The copolymers produced show a high degree of stereoregularity approaching 96% of 1-diads. Ligands lacking C2 symmetry show only a small decrease in regioregularity and stereoregularity. Very high catalytic activity is observed with the ligand (all S)-(Ra)-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(2,5-dimethylphospholane). This ligand allows the production of a completely regioregular copolymer that shows almost complete atacticity.

IT 133545-17-2 145214-57-9 150971-43-0

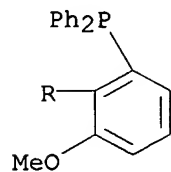
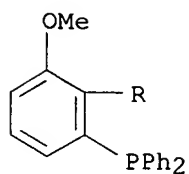
150971-51-0 150971-55-4 172617-14-0

RL: CAT (Catalyst use); USES (Uses)

(catalyst; regioregular and stereoregular copolymn. of propene with carbon monoxide catalyzed by palladium complexes containing atropisomeric diphosphine ligands)

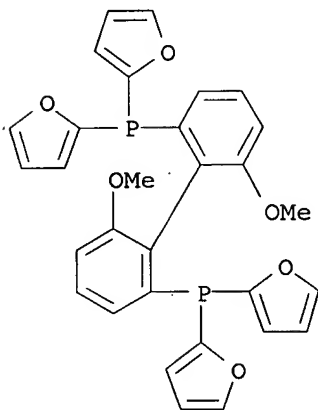
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)



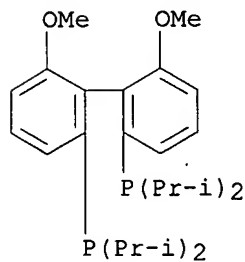
RN 145214-57-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-
(9CI) (CA INDEX NAME)



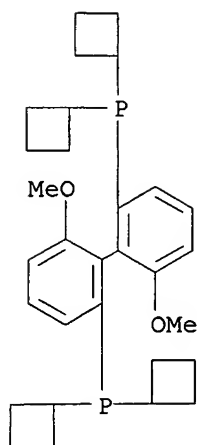
RN 150971-43-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)-
(9CI) (CA INDEX NAME)

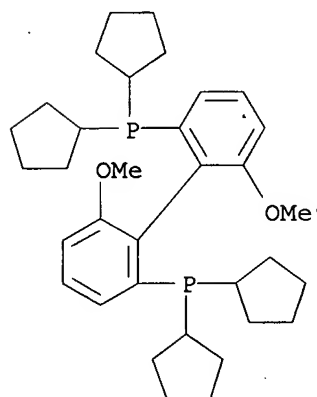


RN 150971-51-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclobutyl-
(9CI) (CA INDEX NAME)

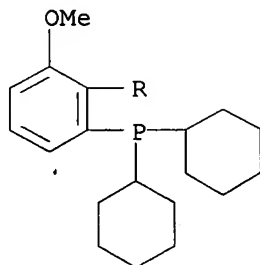


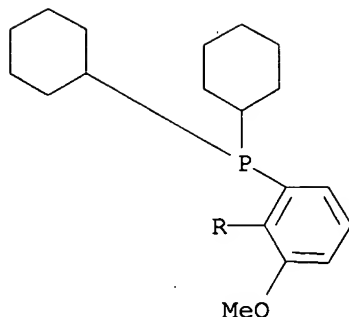
RN 150971-55-4 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclopentyl-
 (9CI) (CA INDEX NAME)



RN 172617-14-0 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclohexyl-,
 (R)- (9CI) (CA INDEX NAME)

PAGE 1-A





L3 ANSWER 194 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:875129 CAPLUS

DOCUMENT NUMBER: 124:56233

TITLE: 1,3-Diphenylallyl Complexes of Palladium(II): NMR, x-ray, and Catalytic Studies

AUTHOR(S): Barbaro, Pierluigi; Pregosin, Paul S.; Salzmann, Renzo; Albinati, Alberto; Kunz, Roland

CORPORATE SOURCE: Laboratorium fuer Anorganische Chemie, ETH Zentrum, Zurich, 8092, Switz.

SOURCE: Organometallics (1995), 14(11), 5160-70

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB 1,3-Diphenylallyl complexes of Pd(II) containing achiral as well as new and com. available chiral auxiliaries were prepared, and their allyl ¹³C-NMR characteristics were recorded. Some results for the catalytic allylic alkylation reaction are given with the best new result, for (R)-BIPHEMP (BIPHEMP = 2,2'-bis(diphenylphosphino)-6,6'-dimethylbiphenyl), showing an enantiomeric excess of 90%. The solid-state structure for [Pd(η³-PhCHCHCHPh)(TMEDA)]BF₄ was determined by x-ray diffraction. Mol. mechanics methods were used to understand some differences between the chiral pockets of selected chelating phosphine ligands. The selective allyl isomerization dynamics for the methoxy-BIPHEMP complex [Pd(η³-PhCHCHCHPh)(2,2'-bis(diphenylphosphino)-6,6'-dimethoxybiphenyl)]PF₆ and the ferrocene-based JOSIPHOS complex (JOSIPHOS = (R)-{1-[(S)-(diphenylphosphino)ferrocenyl]ethyl}dicyclohexylphosphine), [Pd(η³-PhCHCHCHPh){CpFe(C₅H₃(1-CHMePCy₂)-2-PPh₂)}]CF₃SO₃, 9, were followed by 2-dimensional exchange spectroscopy. The observed ee for 9 does not correlate with expectations based on ¹³C data, together with a ground state population anal.; i.e., the reaction kinetics for different diastereomers may be important. The 1,3-diphenylallyl substrate is special in that its Ph groups can stack with the Ph groups of the chiral auxiliary.

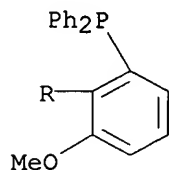
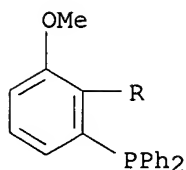
IT 133545-17-2, (S)-2,2'-Bis(diphenylphosphino)-6,6'-dimethoxybiphenyl

RL: RCT (Reactant); RACT (Reactant or reagent)

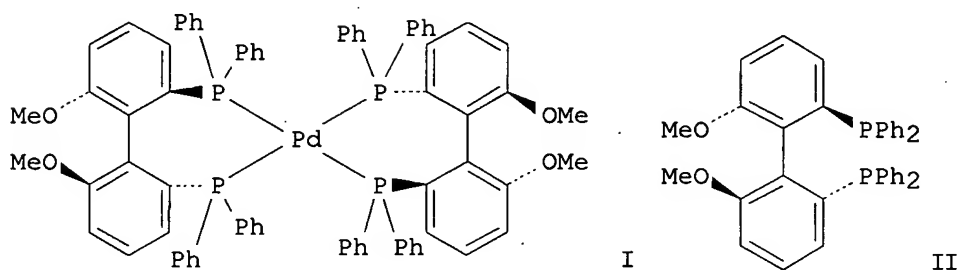
(for preparation of palladium allyl bidentate-ligand complex)

RN 133545-17-2 CAPLUS

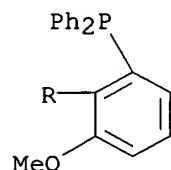
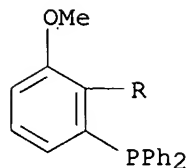
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)



L3 ANSWER 195 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1995:833768 CAPLUS
 DOCUMENT NUMBER: 124:56073
 TITLE: Crystal structure of a new chiral Pd(0)/diphosphine complex and its use in enantioselective allylic alkylations
 AUTHOR(S): Bolm, Carsten; Kaufmann, Daniel; Gessler, Simon; Harms, Klaus
 CORPORATE SOURCE: Fachbereich Chemie der Philipps-Universitaet Marburg, Hans-Meerwein-Strasse, Marburg, D-35032, Germany
 SOURCE: Journal of Organometallic Chemistry (1995), 502(1-2), 47-52
 CODEN: JORCAI; ISSN: 0022-328X
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 124:56073
 GI



AB The crystal structure of the new chiral Pd(0) complex (R,R)-I bearing two homochiral diphosphine ligands is reported. Its catalytic activity and enantioselectivity in allylic substitution reactions were investigated and the results compared to those obtained with various in-situ catalyst systems derived from [Pd(allyl)Cl]₂ and diphosphine (R)-II.
 IT 133545-16-1
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (crystal structure of chiral Pd(0)/diphosphine complex and use in enantioselective allylic alkylations)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)



L3 ANSWER 196 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:678980 CAPLUS

DOCUMENT NUMBER: 123:313373

TITLE: Practical asymmetric hydrogenation of β -keto esters at atmospheric pressure using chiral Ru(II) catalysts

AUTHOR(S): Genet, J. P.; Ratovelomanana-Vidal, V.; Cano de Andrade, M. C.; Pfister, X.; Guerreiro, P.; Lenoir, J. Y.

CORPORATE SOURCE: Lab. Synth. Org., Ec. Natl. Super. Chim, Paris, 75231, Fr.

SOURCE: Tetrahedron Letters (1995), 36(27), 4801-4
CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 123:313373

AB New practical conditions of asym. hydrogenation of β -keto esters with chiral Ru(II) catalysts are described. It is now possible to carry out the reaction at atmospheric pressure. Under these conditions, β -keto esters are hydrogenated to β -hydroxy esters with excellent enantiomeric excesses (up to 99%) using chiral ruthenium (II) catalysts easily prepared in situ by treatment of com. available (COD)Ru(2-methylallyl)₂ in the presence of the appropriate chiral ligands such as Binap, MeO-Biphep and Me-Duphos.

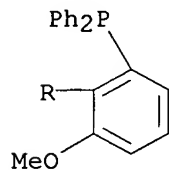
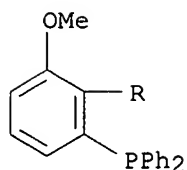
IT 133545-16-1 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

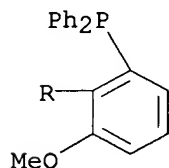
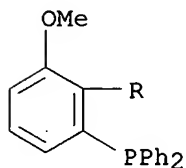
(asym. hydrogenation of β -keto esters at atmospheric pressure using chiral Ru(II) catalysts)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



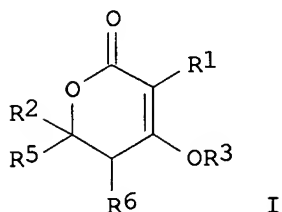
RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl]- (CA INDEX NAME)



L3 ANSWER 197 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1995:538463 CAPLUS
 DOCUMENT NUMBER: 122:290712
 TITLE: Process for enantioselective hydrogenation of 2H-pyran-2-ones
 INVENTOR(S): Broger, Emil Albin; Karpf, Martin; Zutter, Ulrich
 PATENT ASSIGNEE(S): F. Hoffmann-La Roche AG, Switz.
 SOURCE: Eur. Pat. Appl., 14 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 643052	A2	19950315	EP 1994-113871	19940905
EP 643052	A3	19950322		
EP 643052	B1	19961218		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL				
US 5481008	A	19960102	US 1994-298734	19940831
AT 146465	T	19970115	AT 1994-113871	19940905
ES 2096388	T3	19970301	ES 1994-113871	19940905
JP 07165747	A	19950627	JP 1994-216425	19940909

JP 3598133	B2	20041208		
CN 1106002	A	19950802	CN 1994-115274	19940912
CN 1053902	B	20000628		
RU 2127267	C1	19990310	RU 1994-33115	19940912
PRIORITY APPLN. INFO.:			CH 1993-2738	A 19930913
OTHER SOURCE(S):		CASREACT 122:290712; MARPAT 122:290712		
GI				

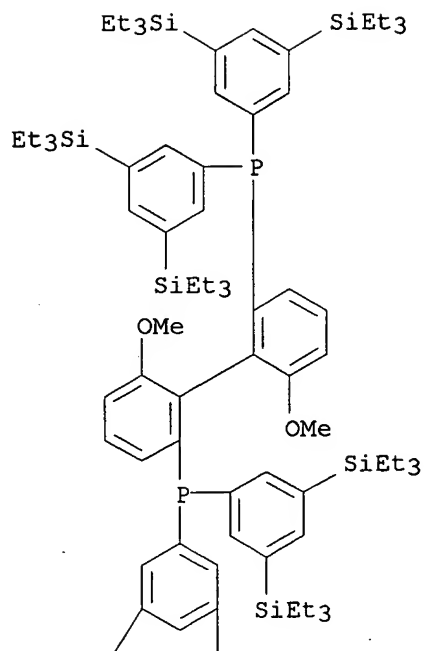


AB Dihydro-2H-pyran-2-ones I [R1,R2 = (O-interrupted) alkyl, (un)substituted CH2Ph; R3 = H, alkyl, (un)substituted CH2Ph, alkanoyl, etc.] (II; R5 = R6 = H) were prepared by asym. hydrogenation of II (R5R6 = bond) in the presence of a complex of an optically active atropisomeric diphosphine ligand and a Group VIII metal. Thus, I (R1 = hexyl, R2 = undecyl) (III; R3 = H, R5R6 = bond) was hydrogenated at 60° and 60bar in MeOH in the presence of a catalyst prepared by treating Ru(OAc)2[(S)-3,5-tert-Bu-MeOBIPHEP] with aqueous HBF4 to give a product comprising III (R3 = H, R5 = R6 = H) (92% optical purity) 73, III (R3 = Me, R5 = R6 = H) (92.1%ee) 20, and tetrahydro-product 5%.

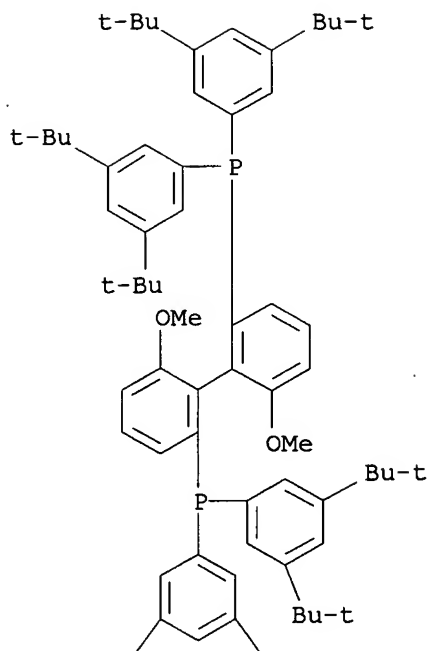
IT 150971-39-4 167709-31-1
 RL: CAT (Catalyst use); USES (Uses)
 (process for enantioselective hydrogenation of 2H-pyran-2-ones)

RN 150971-39-4 CAPLUS

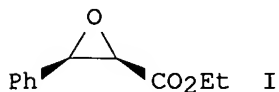
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(triethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)



RN 167709-31-1 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



L3 ANSWER 198 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1995:476981 CAPLUS
 DOCUMENT NUMBER: 123:143550
 TITLE: A new enantioselective synthesis of glycidates via
 dynamic kinetic resolution of racemic 2-chloro-3-keto
 esters using chiral Ru(II) complexes
 AUTHOR(S): Genet, Jean-Pierre; Cano de Andrade, M. C.;
 Ratovelomanana-Vidal, V.
 CORPORATE SOURCE: Lab. Synthèse Organique, Ec. Nationale Supérieure de
 Chimie de Paris, Paris, 75231, Fr.
 SOURCE: Tetrahedron Letters (1995), 36(12), 2063-6
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 123:143550
 GI



AB 2-Chloro-3-keto esters $\text{RCOCHClCO}_2\text{R}_1$ ($\text{R} = \text{Ph}, \text{Me}, \text{R}_1 = \text{Et}; \text{R} = 4\text{-MeOC}_6\text{H}_4, \text{R}_1 = \text{Me}$) were quant. hydrogenated to syn and anti 2-chloro-3-hydroxy

esters by asym. hydrogenation with chiral ruthenium(II) catalysts prepared in-situ from (COD)Ru(2-Methylallyl)₂ in the presence of atropisomeric ligands such as MeO-Biphep and Binap, giving enantioselectivities up to 99%. The 2-Chloro-3-hydroxy esters were treated with different bases to give (E)- and (Z)-2,3-epoxyalkanoates, e.g., I, in 65-90% yields with 84-97% ee.

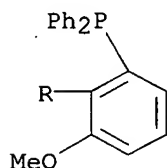
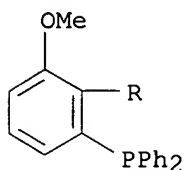
IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(enantioselective synthesis of glycidates via kinetic resolution of racemic chloroketo esters using chiral Ru complexes)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



L3 ANSWER 199 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:363532 CAPLUS

DOCUMENT NUMBER: 122:177006

TITLE: Synthesis and structural characterization of the tetraruthenium cluster complexes [Ru₄(μ-H)₄(CO)₁₀(L-L)] (L-L = diphosphine)

AUTHOR(S): Braga, Dario; Matteoli, Ugo; Sabatino, Piera; Scrivanti, Alberto

CORPORATE SOURCE: Dip. Chim. G. Ciamician, Univ. Bologna, Bologna, 40126, Italy

SOURCE: Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1995), (3), 419-23
CODEN: JCDTBI; ISSN: 0300-9246

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The clusters [Ru₄(μ-H)₄(CO)₁₀{(S)(-)-binap}] (1) and [Ru₄(μ-H)₄(CO)₁₀{(S)(-)-mobiph}] (2) containing the atropisomeric diphosphine ligands (S)(-)-2,2'-bis(diphenylphosphino)-1,1'-binaphthyl (binap) and (S)(-)-2,2'-bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-biphenyl (mobiph) were synthesized via direct reaction of [Ru₄H₄(CO)₁₂] in toluene at 150° with a 2-fold excess of the diphosphine under H₂ pressure. Their mol. and crystal structures were determined by single-crystal x-ray diffraction: both crystallize in the orthorhombic system, space group P2₁2₁2₁, Z = 4; a 13.009(7), b 14.357(2), c 29.109(7) Å for 1; a 12.108(8), b 15.845(3), c 28.241(5) Å for 2. In both complexes the diphosphine ligand chelates the Ru atom involved in three hydride bridges.

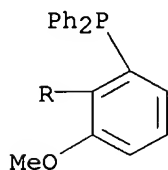
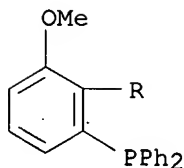
IT 133545-17-2, (S)(-)-2,2'-Bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-biphenyl

RL: RCT (Reactant); RACT (Reactant or reagent)

(for preparation of ruthenium carbonyl hydrido diphosphine tetranuclear cluster)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)



L3 ANSWER 200 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:23857 CAPLUS

DOCUMENT NUMBER: 122:80842

TITLE: Dynamic kinetic resolution of cyclic β -keto esters with preformed or in-situ prepared chiral diphosphine-ruthenium(II) catalysts

AUTHOR(S): Genet, J. P.; Pfister, X.; Ratovelomanana-Vidal, V.; Pinel, C.; Laffitte, J. A.

CORPORATE SOURCE: CNRS, Pierre Marie Curie, Paris, 75231, Fr.

SOURCE: Tetrahedron Letters (1994), 35(26), 4559-62

CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: English

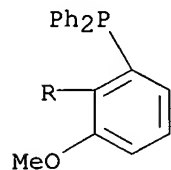
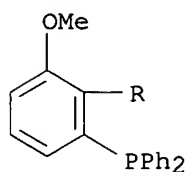
AB The reduction of racemic β -keto esters having the tetralone structure by chiral ruthenium(II) catalysts is realized with an ideal kinetic dynamic resolution. Anti selectivity approaching 100% and enantioselectivity up to 97% are obtained using atropisomeric ligands. The trans β -hydroxy esters thus available are useful starting materials for production of enantiomerically pure compds.

IT 133545-16-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(catalysts containing methallylruthenium, for asym. hydrogenation of oxo esters)

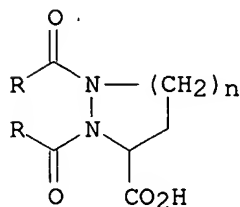
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)

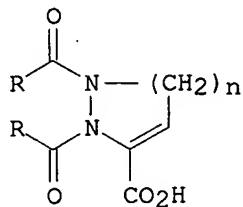


L3 ANSWER 201 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1994:298626 CAPLUS
 DOCUMENT NUMBER: 120:298626
 TITLE: Asymmetric hydrogenation with optically active ruthenium diphosphine catalysts and application to a cilazapril intermediate
 INVENTOR(S): Broger, Emil Albin; Crameri, Yvo; Imfeld, Marquard; Montavon, Francois; Widmer, Erich
 PATENT ASSIGNEE(S): F. Hoffmann-La Roche & Co. AG, Switz.
 SOURCE: Eur. Pat. Appl., 18 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 570764	A2	19931124	EP 1993-107272	19930505
EP 570764	A3	19940629		
EP 570764	B1	20010718		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL				
AT 203242	T	20010815	AT 1993-107272	19930505
ES 2164056	T3	20020216	ES 1993-107272	19930505
JP 06032780	A	19940208	JP 1993-114776	19930517
JP 3526310	B2	20040510		
US 5750690	A	19980512	US 1996-690215	19960726
PRIORITY APPLN. INFO.:			CH 1992-1582	A 19920518
			CH 1993-729	A 19930311
			US 1993-57231	B1 19930504
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OTHER SOURCE(S):		CASREACT 120:298626; MARPAT 120:298626		
GI				



I



II

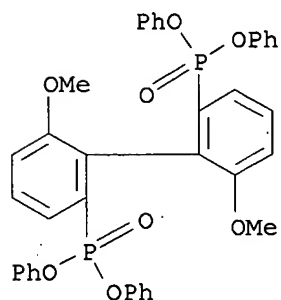
AB (R)- or (S)-stereoisomers of heterocycles I [R = alkyl, arylmethyl, aryl, alkoxy, arylmethoxy, aryloxy; or RR = CH₂, CH₂CH₂, 1,2-C₆H₄; n = 1, 2, 3] are prepared by asym. hydrogenation of corresponding unsatd. heterocycles II or their salts in the presence of optically active Ru diphosphine complexes as catalysts. Addnl. claims specify the diphosphines, and the example product and reactant given below, and cover starting materials and their preparation. For example, hydrogenation of the tetrahydropyridazinophthalazine II (RR = 1,2-C₆H₄, n = 2) in MeOH containing Et₃N and the complex Ru(OAc)₂[(S)-p-TolMeOBIPHEP] [cited ligand = (S)-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis[di-(p-tolyl)phosphine]] at 60° and 40 bar gave 100% conversion in 1 h. Workup and acidic precipitation of product gave (S)-I (RR = 1,2-C₆H₄, n = 2) [(S)-III], an intermediate for the antihypertensive cilazapril, in 96% yield and 98.9% optical purity. Addnl. similar catalysts gave 85-95% yield and 97.3-98.9% optical purity for the same reaction. Addnl. examples include analogous preparation of (R)-III, and preps. of the starting material.

IT 145265-37-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction of, in preparation of ligand for ruthenium hydrogenation catalysts)

RN 145265-37-8 CAPLUS

CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraphenyl ester, (S)- (9CI) (CA INDEX NAME)

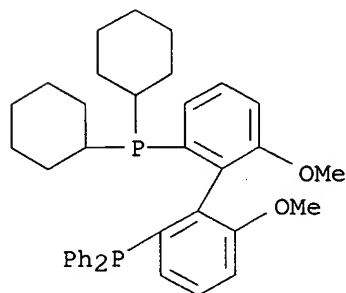


IT 151489-76-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(catalyst precursor with ruthenium species, for asym. hydrogenation of tetrahydropyridazinophthalazine derivative and analogs)

RN 151489-76-8 CAPLUS

CN Phosphine, dicyclohexyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)



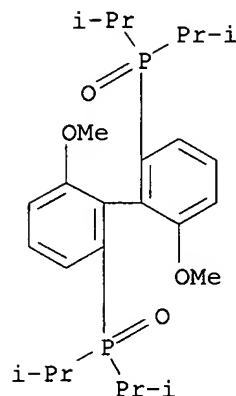
IT 150971-42-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(preparation and reduction of, in preparation of ligand for ruthenium catalysts)

RN 150971-42-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(1-methylethyl)-, (S)- (9CI) (CA INDEX NAME)

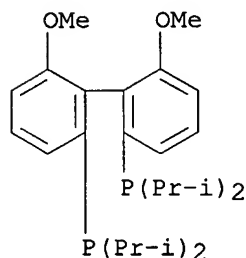


IT 150971-43-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as catalyst precursor with ruthenium species for asym. hydrogenation)

RN 150971-43-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)]



L3 ANSWER 202 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:270103 CAPLUS

DOCUMENT NUMBER: 120:270103

TITLE: Preparation of optically active 6,7,8,9-tetrahydropyrido[1,2-a]indole-8-methanol and derivatives by asymmetric hydrogenation of 6,7-dihydropyrido[1,2-a]indole-8-methanol and derivatives.

INVENTOR(S): Broger, Emil Albin

PATENT ASSIGNEE(S): F. Hoffmann-La Roche AG, Switz.

SOURCE: Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

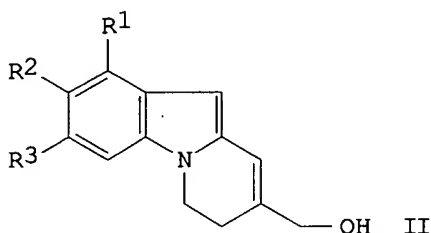
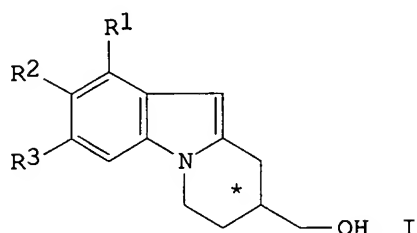
DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 574783	A2	19931222	EP 1993-109092	19930607
EP 574783	A3	19940608		
EP 574783	B1	19991006		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL				
US 5374727	A	19941220	US 1993-68358	19930527
AT 185346	T	19991015	AT 1993-109092	19930607
ES 2138605	T3	20000116	ES 1993-109092	19930607
JP 06065240	A	19940308	JP 1993-168371	19930616
JP 2788841	B2	19980820		
PRIORITY APPLN. INFO.:			CH 1992-1944	A 19920619
			CH 1993-826	A 19930318
OTHER SOURCE(S):			CASREACT 120:270103; MARPAT 120:270103	
GI				

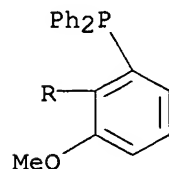
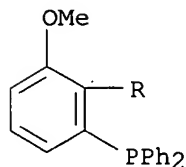


AB Title compds. (I; R1, R2, R3 = H, halo, alkyl, haloalkyl, OH, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, NO₂, amino, acylamino; starred atom has S- or R-configuration), were prepared by hydrogenation of dihydro derivs (II; R1-R3 as above) in the presence of an optically active Rh diphosphine complex. Thus, Di-μ-chlorobis(1,5-cyclooctadiene)dirhodium(I) and (S)-MeOBIPHEP [MeOBIPHEP = (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine)] were stirred in PhMe and the mixture was stirred 10 min. The catalyst mixture and II (R1-R3 = H) (preparation given) in PhMe were placed in an autoclave which was heated at 80° under 60 bar H for 18 h to give 100% R-I (R1-R3 = H) in 93.7% enantiomeric excess.

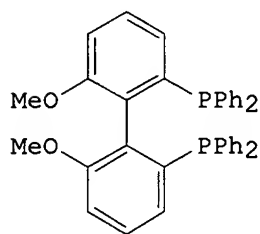
IT 133545-17-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (catalyst from, for asym. hydrogenation of dihydropyridoindolemethanols)

RN 133545-17-2 CAPLUS

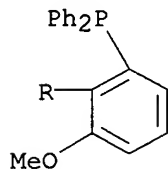
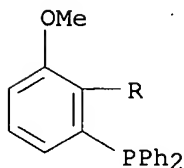
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



L3 ANSWER 203 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1994:269766 CAPLUS
 DOCUMENT NUMBER: 120:269766
 TITLE: Palladium-catalyzed enantioselective
 bis(alkoxycarbonylation) of olefins
 AUTHOR(S): Nefkens, Sylvia C. A.; Sperrle, Martin; Consiglio,
 Giambattista
 CORPORATE SOURCE: Lab. Tech. Chem., Eidg. Tech. Hochsch., Zurich,
 CH-8092, Switz.
 SOURCE: Angewandte Chemie (1993), 105(12), 1837-8 (See also
 Angew. Chem., Int. Ed. Engl., 1993, 32(12), 1719-20)
 CODEN: ANCEAD; ISSN: 0044-8249
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 120:269766
 GI



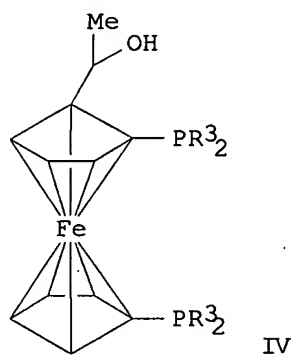
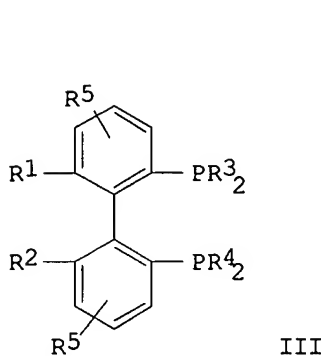
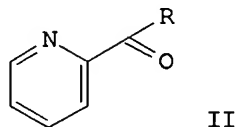
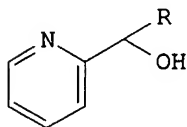
AB The title reaction is described. Thus, [Pd(acac)₂] catalyzed
 bis(alkoxycarbonylation) of styrene with CO/MeOH in the presence of ligand
 (S)-I, 4-MeC₆H₄SO₃H, and benzoquinone gave 40% (S)-di-Me phenylcinnamate
 in 93% enantiomeric excess.
 IT 133545-17-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (catalyst containing palladium, toluenesulfonic acid and, for
 enantioselective bis(alkoxycarbonylation) of styrene)
 RN 133545-17-2 CAPLUS
 CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)



L3 ANSWER 204 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1994:54457 CAPLUS

DOCUMENT NUMBER: 120:54457
 TITLE: Asymmetric hydrogenation of pyridyl
 bis(trifluoromethyl)quinolyl ketone by rhodium
 catalysts containing chiral diphosphines
 INVENTOR(S): Broger, Emil Albin; Hofheinz, Werner; Meili, Arthur
 PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 16 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 553778	A1	19930804	EP 1993-101179	19930127
EP 553778	B1	20011212		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL				
AT 210655	T	20011215	AT 1993-101179	19930127
ES 2168262	T3	20020616	ES 1993-101179	19930127
JP 06016634	A	19940125	JP 1993-32418	19930129
JP 3334213	B2	20021015		
CN 1079960	A	19931229	CN 1993-102525	19930130
CN 1045436	B	19991006		
US 5514805	A	19960507	US 1994-225408	19940408
PRIORITY APPLN. INFO.:			CH 1992-289	A 19920131
			US 1993-10120	B1 19930128
OTHER SOURCE(S):		CASREACT 120:54457; MARPAT 120:54457		
GI				



AB A process for the preparation of chiral pyridine derivs. I wherein R = aryl or heteroaryl comprises the treatment of ketones such as II under asym. hydrogenation conditions using rhodium diphosphine complex catalysts of formula $[Rh(X)(Y)(L_0,1,2)]_1,2$ wherein X = halogen, ZCO₂, phenolate or halophenolate, Z = alkyl, Ph, haloalkyl or haloaryl, Y = chiral diphosphine ligand, e.g., III or ferrocenyl diphosphine complex, i.e., IV wherein R₁, R₂ = alkyl, alkoxy, dialkylamino, (protected) hydroxy or

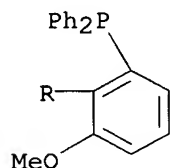
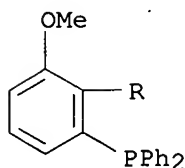
hydroxymethyl, or R1R2 (together) = (CH2)m, CH2OCH2, CH2NR6CH2, etc., m = 3, 4, 5, R6 = alkyl, Ph, benzyl, R5 = alkyl, alkoxy, R3, R4 = alkyl, Ph, cycloalkyl, heteroarom., etc. For example, 2-pyridyl 2,8-bis(trifluoromethyl)-4-quinolyl ketone was hydrogenated in the presence of di-μ-chlorobis(1,5-cyclooctadiene)dirhodium(I) and (1R)-1,1'-bis(diphenylphosphino)-2-[(S)-1-hydroxyethyl]ferrocene in EtOAc at 60° and 60 bar to give (S)-α-(2-pyridyl)-2,8-bis(trifluoromethyl)-4-quinolinemethanol in 90.3% yield and 82.4% enantiomeric excess.

IT 133545-16-1 133545-17-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(demethylation of)

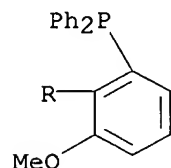
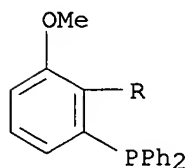
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)]



IT 151395-61-8P 151395-62-9P 151489-75-7P

151489-76-8P 151489-77-9P 151489-79-1P

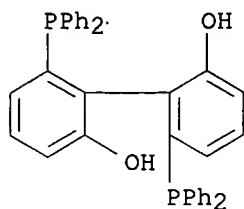
151489-80-4P 151516-06-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction of, with dirhodium complex, asym. hydrogenation catalyst by)

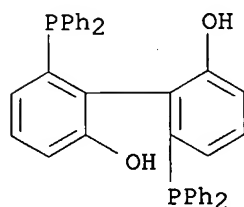
RN 151395-61-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)



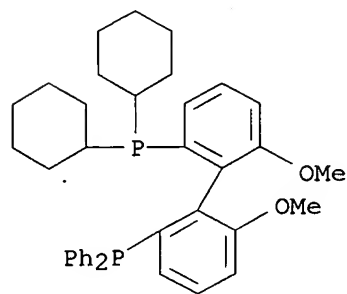
RN 151395-62-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA INDEX NAME)



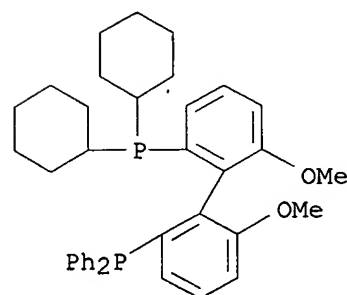
RN 151489-75-7 CAPLUS

CN Phosphine, dicyclohexyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (R)- (9CI) (CA INDEX NAME)



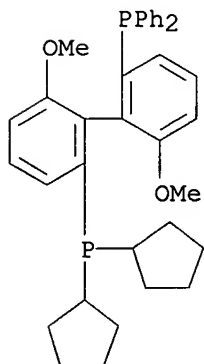
RN 151489-76-8 CAPLUS

CN Phosphine, dicyclohexyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)



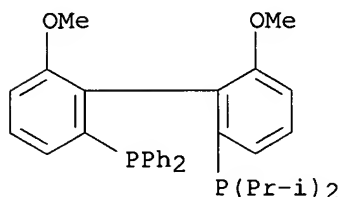
RN 151489-77-9 CAPLUS

CN Phosphine, dicyclopentyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)



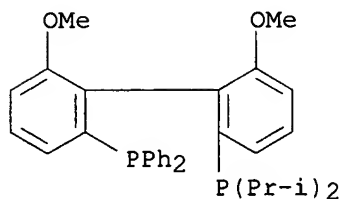
RN 151489-79-1 CAPLUS

CN Phosphine, [2'-[bis(1-methylethyl)phosphino]-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (R)- (9CI) (CA INDEX NAME)



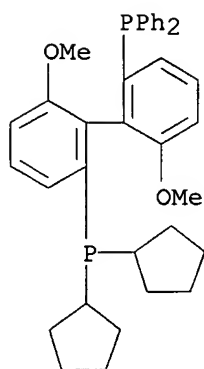
RN 151489-80-4 CAPLUS

CN Phosphine, [2'-[bis(1-methylethyl)phosphino]-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)



RN 151516-06-2 CAPLUS

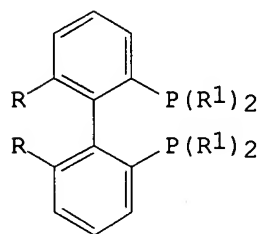
CN Phosphine, dicyclopentyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (R)- (9CI) (CA INDEX NAME)



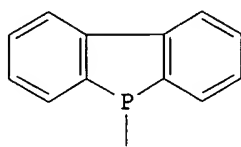
L3 ANSWER 205 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1994:8746 CAPLUS
 DOCUMENT NUMBER: 120:8746
 TITLE: Diphosphine ligands
 INVENTOR(S): Broger, Emil Albin; Cereghetti, Marco
 PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.
 SOURCE: PCT Int. Appl., 24 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9315089	A1	19930805	WO 1993-CH16	19930122
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 582692	A1	19940216	EP 1993-902011	19930122
EP 582692	B1	19980422		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL				
JP 06506484	T	19940721	JP 1993-512828	19930122
JP 3369560	B2	20030120		
AT 165361	T	19980515	AT 1993-902011	19930122
ES 2116435	T3	19980716	ES 1993-902011	19930122
US 5508438	A	19960416	US 1993-122426	19930924
PRIORITY APPLN. INFO.:			CH 1992-290	A 19920131
			CH 1993-132	A 19930118
			WO 1993-CH16	W 19930122

OTHER SOURCE(S): CASREACT 120:8746; MARPAT 120:8746
 GI



I



II

AB Described are new racemic and optically active phosphorus compds. of the formula I in which R is a lower alkyl, lower alkoxy or hydroxy group or a

protected hydroxy group and R1 and R2, which are different from each other, are a lower alkyl, cycloalkyl, aryl or five-membered hetero-aromatic group or a group of the formula II. The compds. of formula I act, in the form of complexes with a Group VIII metal, as catalysts for asym. hydrogenation reactions and enantiomer-selective hydrogen displacement reactions in prochiral allylic systems. E.g., 2-pyridyl-2,8-bis(trifluoromethyl)-4-quinolyl ketone was hydrogenated by the catalytic solution prepared from bis(1,5-cyclooctadiene)rhodium(I) tetrafluoroborate, (R)-P,P-dicyclohexyl-P',P'-diphenyl-(6,6'-dimethylbiphenyl-2,2'-diyl)diphosphine and Bu₄NBr/toluene, to give product: (R)-α-(2-pyridyl)-2,8-bis(trifluoromethyl)-4-quinolylmethanol in 92% yield.

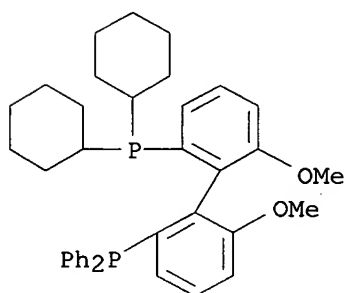
IT 151489-75-7P 151489-76-8P 151489-77-9P
 151489-78-0P 151489-79-1P 151489-80-4P
 151489-81-5P 151489-82-6P 151489-89-3P
 151516-06-2P 151516-07-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, as ligand for asym. hydrogenation with rhodium catalysts)

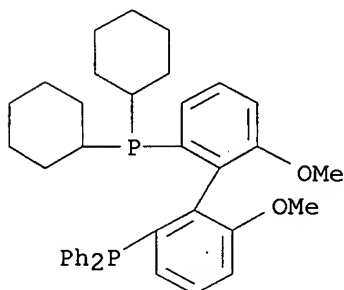
RN 151489-75-7 CAPLUS

CN Phosphine, dicyclohexyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (R)- (9CI) (CA INDEX NAME)



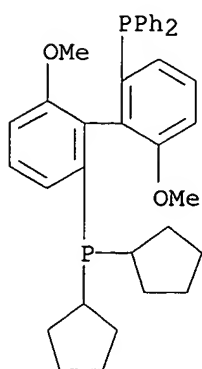
RN 151489-76-8 CAPLUS

CN Phosphine, dicyclohexyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)

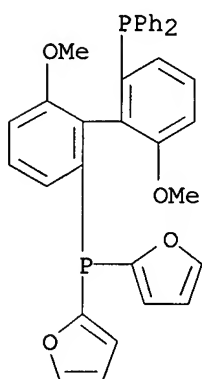


RN 151489-77-9 CAPLUS

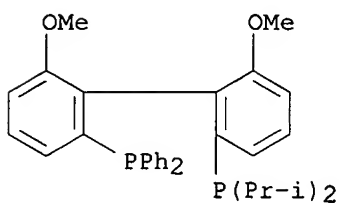
CN Phosphine, dicyclopentyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)



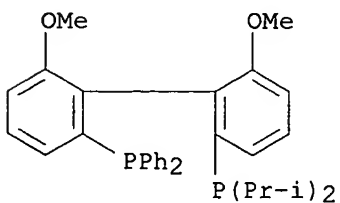
RN 151489-78-0 CAPLUS
 CN Phosphine, [2'-(di-2-furanylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (R)- (9CI) (CA INDEX NAME)



RN 151489-79-1 CAPLUS
 CN Phosphine, [2'-[bis(1-methylethyl)phosphino]-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (R)- (9CI) (CA INDEX NAME)

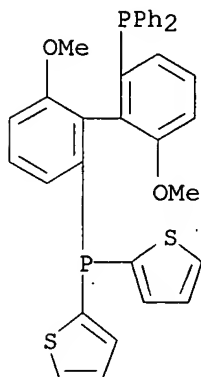


RN 151489-80-4 CAPLUS
 CN Phosphine, [2'-[bis(1-methylethyl)phosphino]-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)



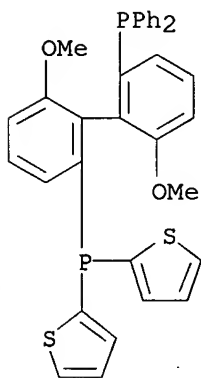
RN 151489-81-5 CAPLUS

CN Phosphine, [2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]di-2-thienyl-, (R)- (9CI) (CA INDEX NAME)



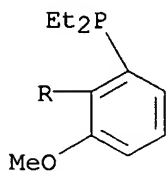
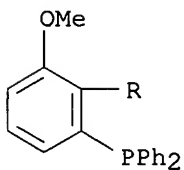
RN 151489-82-6 CAPLUS

CN Phosphine, [2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]di-2-thienyl-, (S)- (9CI) (CA INDEX NAME)



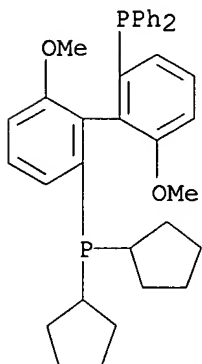
RN 151489-89-3 CAPLUS

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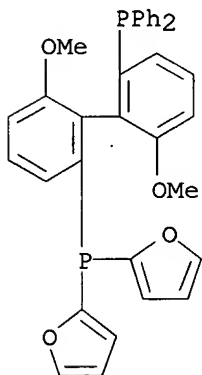
RN 151516-06-2 CAPLUS

CN Phosphine, dicyclopentyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (R)- (9CI) (CA INDEX NAME)



RN 151516-07-3 . CAPLUS

CN Phosphine, [2'-(di-2-furanylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)



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ACCESSION NUMBER: 1993:671399 CAPLUS

DOCUMENT NUMBER: 119:271399

TITLE: Preparation of racemic and optically active diphosphine ligands for use in ruthenium asymmetric hydrogenation catalysts for prochiral allylic systems

INVENTOR(S): Foricher, Joseph; Schmid, Rudolf

PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.

SOURCE: PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

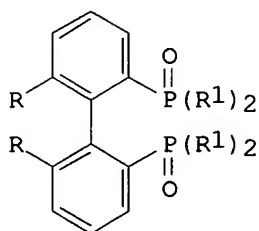
FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9315091	A1	19930805	WO 1993-CH26	19930201
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 579797	A1	19940126	EP 1993-902021	19930201
EP 579797	B1	19990421		

R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL

JP 06506475	T	19940721	JP 1993-506424	19930201
JP 3369558	B2	20030120		
AT 179981	T	19990515	AT 1993-902020	19930201
AT 179176	T	19990515	AT 1993-902021	19930201
ES 2131575	T3	19990801	ES 1993-902021	19930201
ES 2132215	T3	19990816	ES 1993-902020	19930201
EP 565975	A2	19931020	EP 1993-105548	19930403
EP 565975	A3	19931103		
EP 565975	B1	19960904		
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AT 142191	T	19960915	AT 1993-105548	19930403
ES 2091509	T3	19961101	ES 1993-105548	19930403
JP 06025035	A	19940201	JP 1993-109833	19930414
JP 3310381	B2	20020805		
US 5457219	A	19951010	US 1993-122488	19930927
US 5514805	A	19960507	US 1994-225408	19940408
US 5600015	A	19970204	US 1995-445068	19950519
US 5750690	A	19980512	US 1996-690215	19960726
PRIORITY APPLN. INFO.:			CH 1992-289	A 19920131
			CH 1992-1270	A 19920416
			CH 1992-1582	A 19920518
			CH 1992-1944	A 19920619
			US 1993-10120	B1 19930128
			WO 1993-CH26	W 19930201
			CH 1993-729	A 19930311
			US 1993-44519	B1 19930408
			US 1993-57231	B1 19930504
			US 1994-203859	B1 19940301
			US 1994-330404	B1 19941028
OTHER SOURCE(S):		CASREACT 119:271399; MARPAT 119:271399		
GI				



AB Described are racemic optically active phosphorus compds. of the formula I, in which R is a lower alkyl or lower alkoxy group and R1 is a lower alkyl, cycloalkyl or substituted Ph group. The compds. of the formula I act, in the form of complexes with a group (IV) metal, i.e., di(η 2-acetato)(η 4-1,5-cyclooctadiene)ruthenium (II) (II), as catalysts for asym. hydrogenation reactions and enantiomer-selective hydrogen displacement reactions in prochiral allylic systems. E.g., hydrogenation of 3,4,6,11-tetrahydro-6,11-dioxypyridazo[1,2a]phthalazine-1-carboxylic acid by treatment with H₂ and II and [(S)-6,6'-dimethoxybiphenyl-2,2'-diyl]bis[diisopropylphosphine] gave (S)-1,2,3,4,6,11-hexahydro-6,11-dioxypyridazo[1,2b]phthalazine-1-carboxylic acid in 96% yield.

IT 145209-28-5P 145209-29-6P 150971-32-7P
 150971-34-9P 150971-36-1P 150971-38-3P
 150971-40-7P 150971-42-9P 150971-44-1P
 150971-46-3P 150971-48-5P 150971-50-9P
 150971-52-1P 150971-54-3P 150971-56-5P

150971-58-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

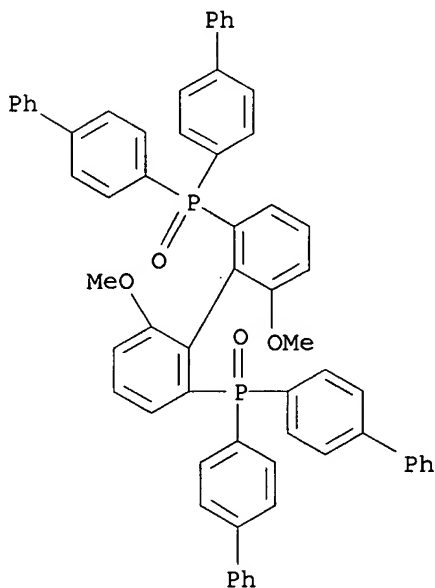
(preparation and reduction of, ligand for metal catalyst of asym.

hydrogenation

reaction by)

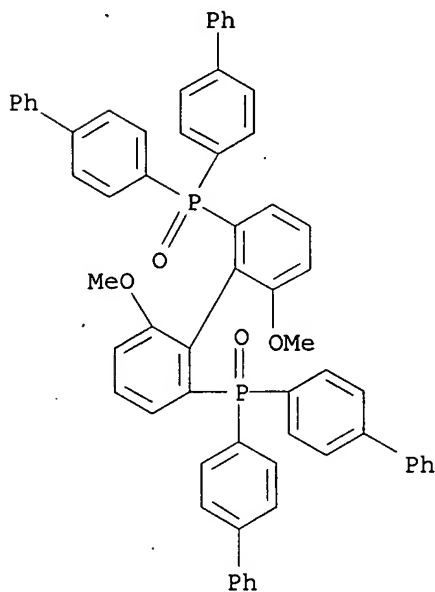
RN 145209-28-5 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1'-
biphenyl]-4-yl)-, (R)- (9CI) (CA INDEX NAME)



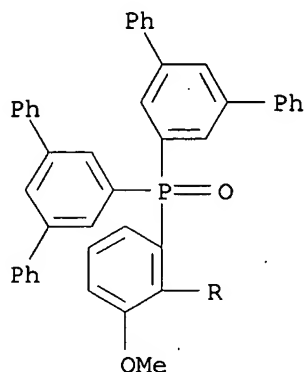
RN 145209-29-6 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1'-
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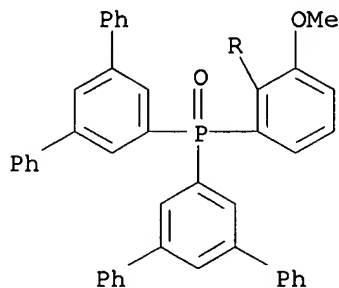


RN 150971-32-7 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1':3',1''-terphenyl]-5'-yl)-, (S)- (9CI) (CA INDEX NAME)

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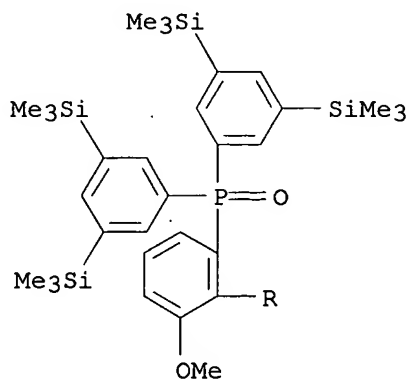


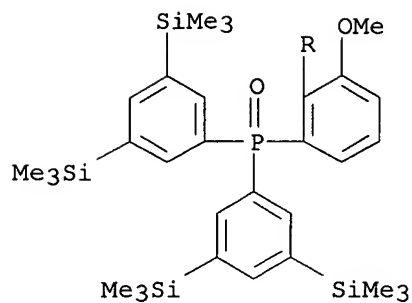
PAGE 2-A



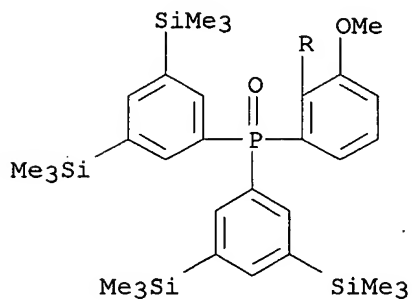
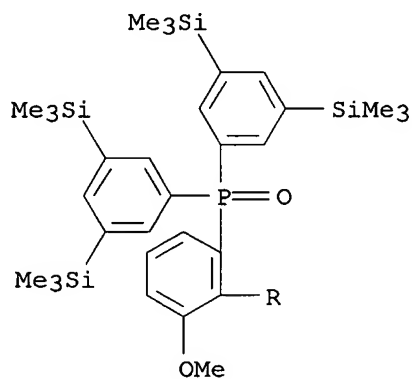
RN 150971-34-9 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(trimethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)

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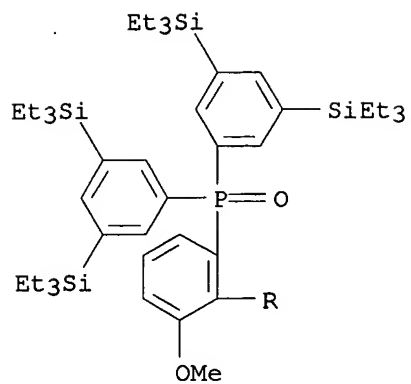


RN 150971-36-1 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(3,5-bis(trimethylsilyl)phenyl)-, (S)- (9CI) (CA INDEX NAME)

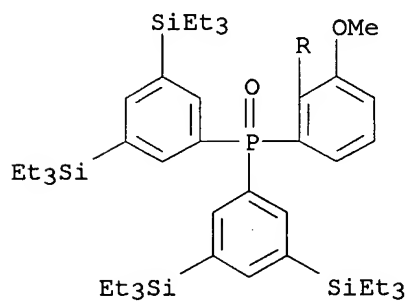


RN 150971-38-3 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(3,5-bis(triethylsilyl)phenyl)-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

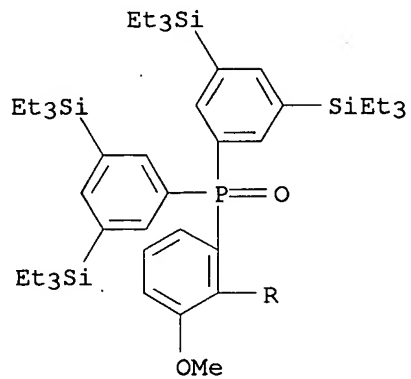


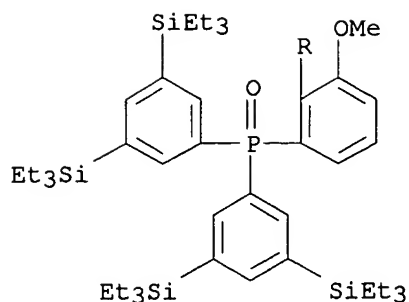
PAGE 2-A



RN 150971-40-7 CAPLUS
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(3,5-bis(triethylsilyl)phenyl)-, (S)- (9CI) (CA INDEX NAME)

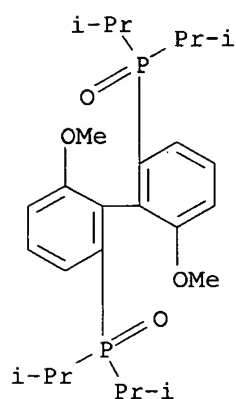
PAGE 1-A





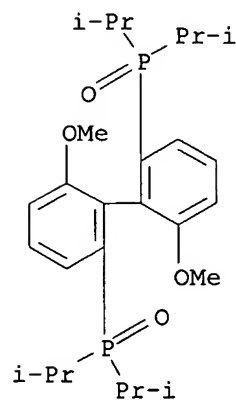
RN 150971-42-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(1-methylethyl)-, (S)- (9CI) (CA INDEX NAME)



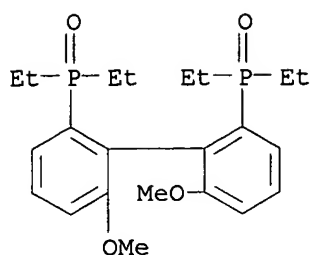
RN 150971-44-1 CAPLUS

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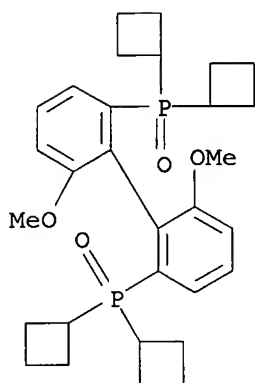
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CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diethyl- (9CI) (CA INDEX NAME)]



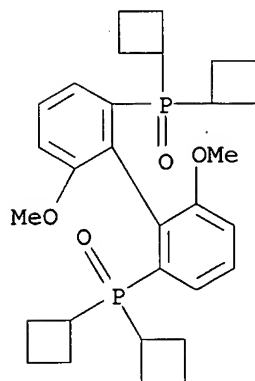
RN 150971-48-5 CAPLUS

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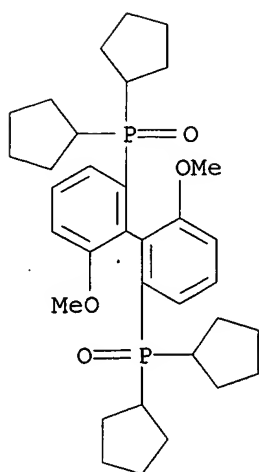
RN 150971-50-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclobutyl-, (S)- (9CI) (CA INDEX NAME)

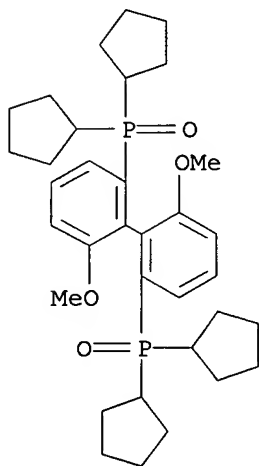


RN 150971-52-1 CAPLUS

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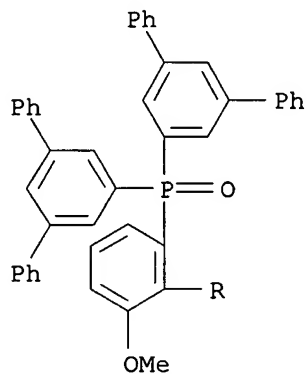


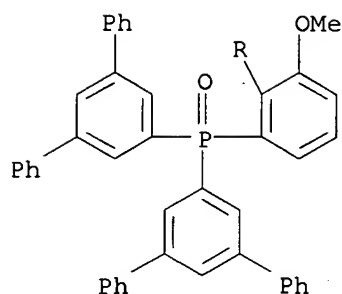
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 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclopentyl-, (S)- (9CI) (CA INDEX NAME)



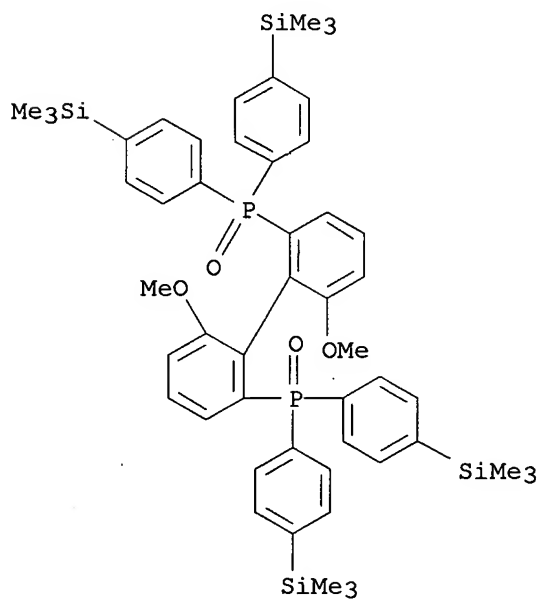
RN 150971-56-5 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1':3',1''-terphenyl]-5'-yl)-, (R)- (9CI) (CA INDEX NAME)

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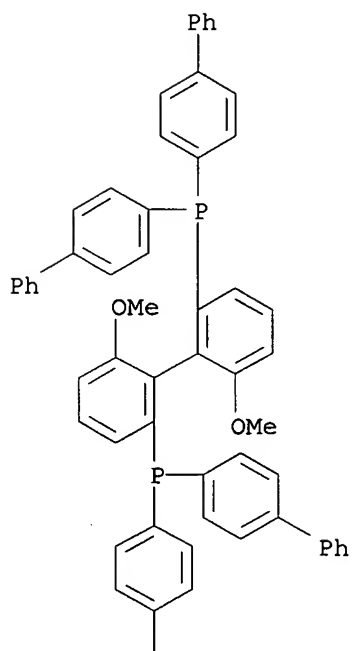




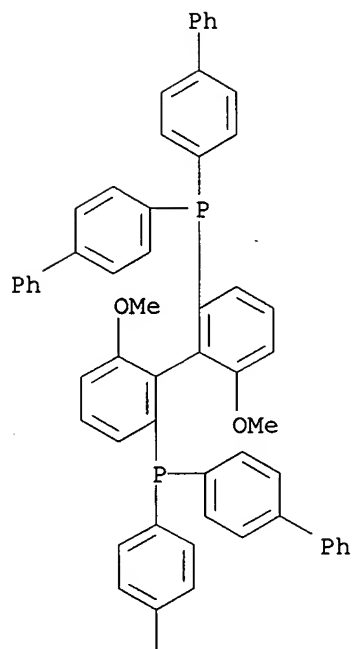
RN 150971-58-7 CAPLUS
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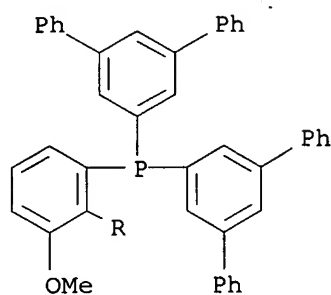
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 150971-47-4P 150971-49-6P 150971-51-0P
 150971-53-2P 150971-55-4P 150971-57-6P
 150971-59-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, as ligand for metal catalyst of asym. hydrogenation
 reaction)
 RN 145209-25-2 CAPLUS
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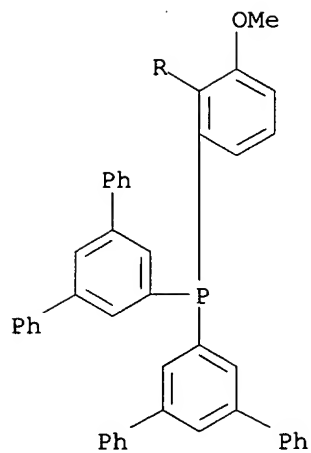


RN 145209-26-3 CAPLUS
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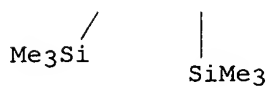
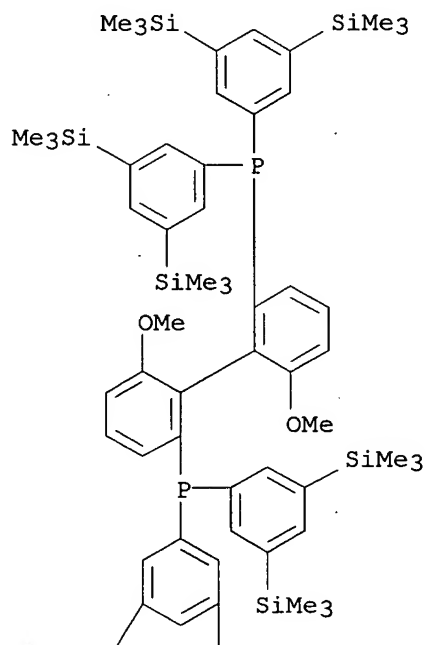


RN 150971-33-8 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1':3',1''-terphenyl]-5'-yl)-, (S)- (9CI) (CA INDEX NAME)

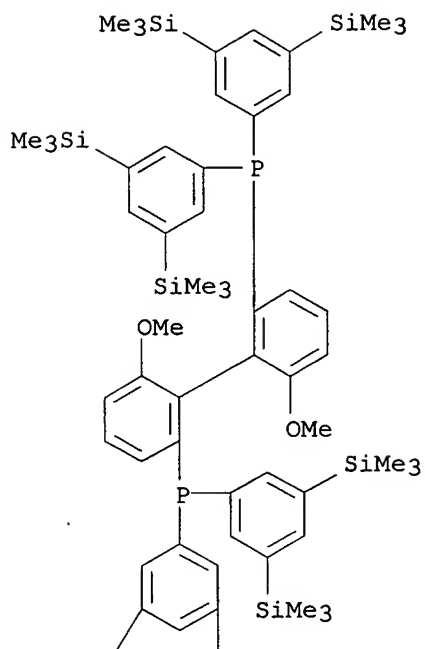




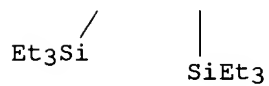
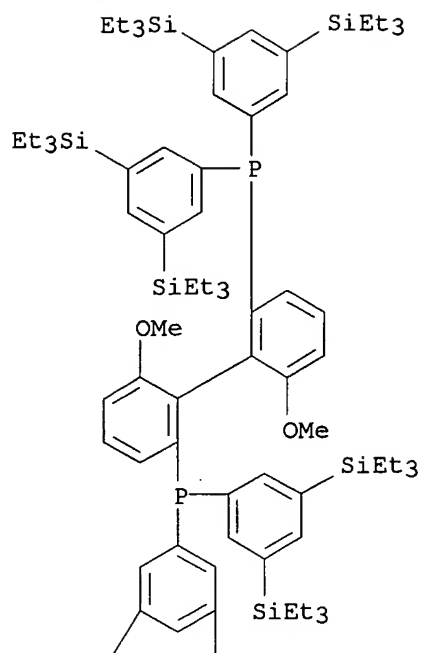
RN 150971-35-0 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(trimethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)



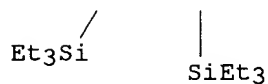
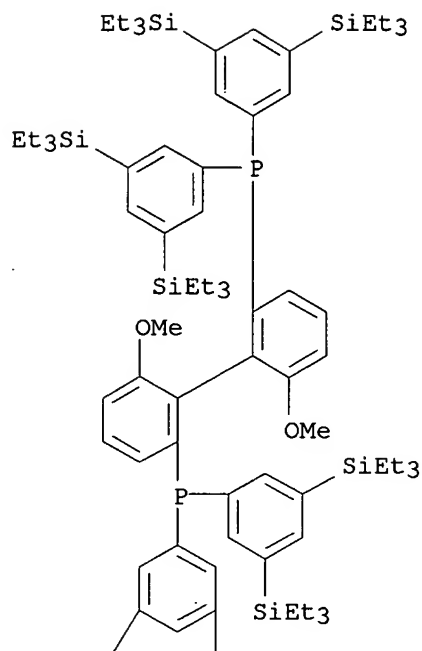
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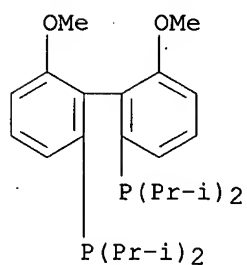
RN 150971-39-4 CAPLUS
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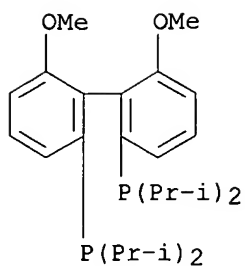
RN 150971-41-8 CAPLUS
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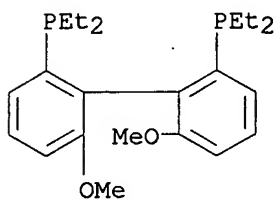
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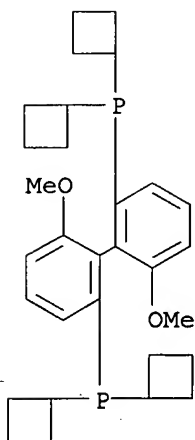
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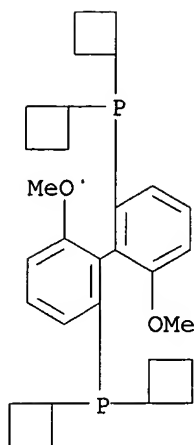
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 (CA INDEX NAME)



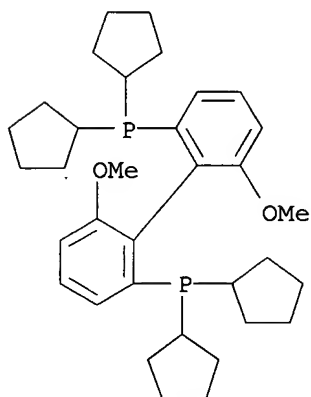
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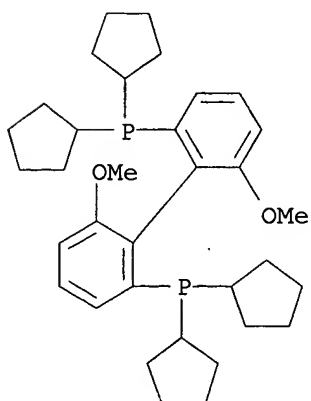
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 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclobutyl-
 (9CI) (CA INDEX NAME)



RN 150971-53-2 CAPLUS
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 (R)- (9CI) (CA INDEX NAME)



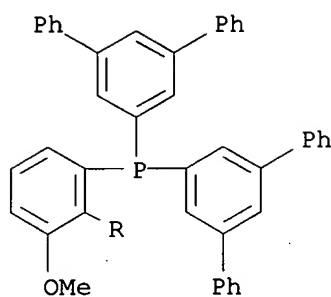
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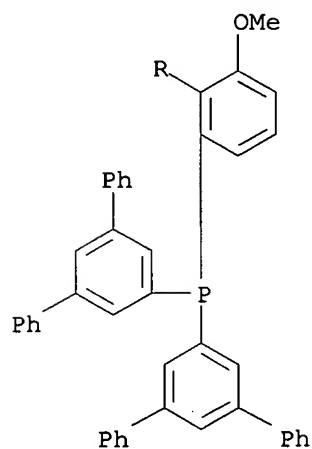
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terphenyl]-5'-yl)-, (R)- (9CI) (CA INDEX NAME)

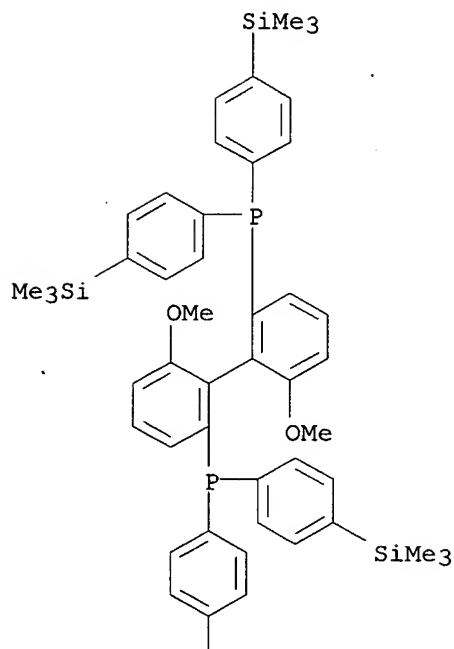
PAGE 1-A



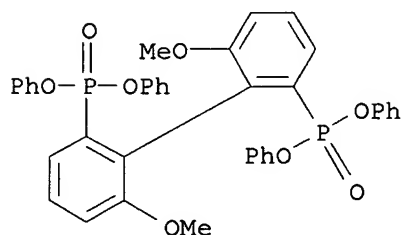
PAGE 2-A



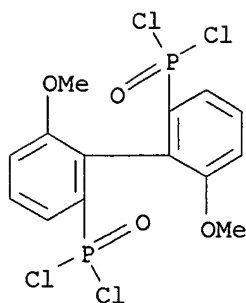
RN 150971-59-8 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[4-(trimethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)



IT 145209-12-7 145265-39-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with biphenyl Grignard reagent)
 RN 145209-12-7 CAPLUS
 CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-,
 tetraphenyl ester (9CI) (CA INDEX NAME)



RN 145265-39-0 CAPLUS
 CN Phosphonic dichloride, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-
 (9CI) (CA INDEX NAME)



L3 ANSWER 207 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1993:671398 CAPLUS
 DOCUMENT NUMBER: 119:271398
 TITLE: Diphosphine ligands
 INVENTOR(S): Foricher, Joseph; Schmid, Rudolf
 PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.
 SOURCE: PCT Int. Appl., 19 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9315090	A1	19930805	WO 1993-CH25	19930201
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 583433	A1	19940223	EP 1993-902020	19930201
EP 583433	B1	19990512		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL				
JP 06506485	T	19940721	JP 1993-512832	19930201
JP 3369561	B2	20030120		
AT 179981	T	19990515	AT 1993-902020	19930201
AT 179176	T	19990515	AT 1993-902021	19930201
ES 2131575	T3	19990801	ES 1993-902021	19930201
ES 2132215	T3	19990816	ES 1993-902020	19930201
EP 565975	A2	19931020	EP 1993-105548	19930403
EP 565975	A3	19931103		
EP 565975	B1	19960904		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL				
AT 142191	T	19960915	AT 1993-105548	19930403
ES 2091509	T3	19961101	ES 1993-105548	19930403
JP 06025035	A	19940201	JP 1993-109833	19930414
JP 3310381	B2	20020805		
US 5430191	A	19950704	US 1993-122506	19930927
US 5514805	A	19960507	US 1994-225408	19940408
US 5600015	A	19970204	US 1995-445068	19950519
US 5750690	A	19980512	US 1996-690215	19960726
PRIORITY APPLN. INFO.:			CH 1992-289	A 19920131
			CH 1992-1270	A 19920416
			CH 1992-1582	A 19920518
			CH 1992-1944	A 19920619
			US 1993-10120	B1 19930128
			WO 1993-CH25	W 19930201
			CH 1993-729	A 19930311
			US 1993-44519	B1 19930408
			US 1993-57231	B1 19930504

US 1994-203859

B1 19940301

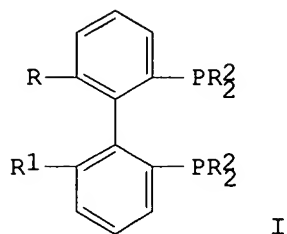
US 1994-330404

B1 19941028

OTHER SOURCE(S):

MARPAT 119:271398

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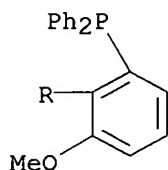
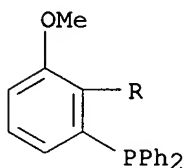
AB Title compds. I (R = OH, protected OH; R1 = OH, protected OH, lower alkoxy; R2 = lower alkyl, cycloalkyl, aryl; or PR1R2 = 9-phospha-9-fluorenyl), useful as ligands with Group VIII metals for asym. hydrogenation reactions and enantiomer-selective hydrogen displacement reactions in prochiral allylic system, are claimed. Thus, demethylation of (R)-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine) with BBr3 in CH2Cl2 gave a title compound, (R)-(6,6'-dihydroxybiphenyl-2,2'-diyl)bis(diphenylphosphine) (II). Reaction of II with dichlorobis(1,5-cyclooctadiene)dirhodium in PhMe gave a catalyst which was used for asym. hydrogenation of (E)-dehydrolilol.

IT 133545-16-1 133545-17-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(demethylation of, with boron tribromide)

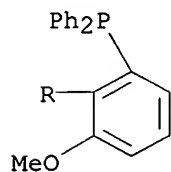
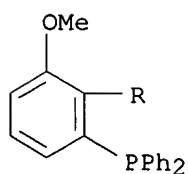
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

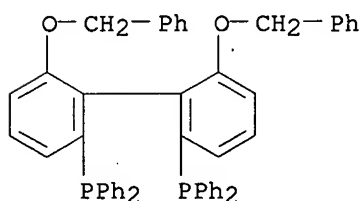


RN 133545-17-2 CAPLUS

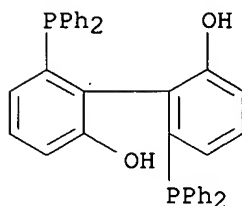
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



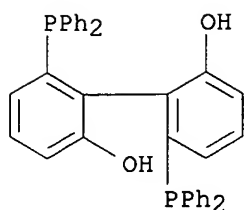
IT 151395-63-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 151395-63-0 CAPLUS
 CN Phosphine, [(1R)-6,6'-bis(phenylmethoxy)[1,1'-biphenyl]-2,2'-
 diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



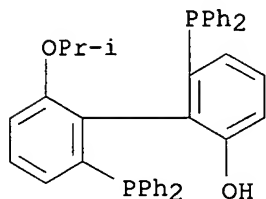
IT 151395-61-8P 151395-62-9P 151395-64-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, as ligand for rhodium or ruthenium catalyzed asym.
 hydrogenation)
 RN 151395-61-8 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX
 NAME)



RN 151395-62-9 CAPLUS
 CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA
 INDEX NAME)

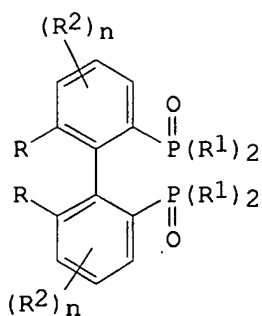


RN 151395-64-1 CAPLUS
 CN [1,1'-Biphenyl]-2-ol, 2',6-bis(diphenylphosphino)-6'-(1-methylethoxy)-,
 (R)- (9CI) (CA INDEX NAME)



L3 ANSWER 208 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1993:147774 CAPLUS
 DOCUMENT NUMBER: 118:147774
 TITLE: Preparation and resolution of biphenyl-1,1'-
 diphosphonates
 INVENTOR(S): Foricher, Joseph; Heiser, Bernd; Schmid, Rudolf
 PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.
 SOURCE: PCT Int. Appl., 25 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9216535	A1	19921001	WO 1992-CH50	19920312
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
EP 530335	A1	19930310	EP 1992-905278	19920312
EP 530335	B1	19960814		
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, NL, SE				
JP 05507503	T	19931028	JP 1992-505915	19920312
JP 3204668	B2	20010904		
AT 141278	T	19960815	AT 1992-905278	19920312
US 5302738	A	19940412	US 1992-949878	19921113
PRIORITY APPLN. INFO.:			CH 1991-794	A 19910315
			WO 1992-CH50	W 19920312
OTHER SOURCE(S):		MARPAT 118:147774		
GI				



AB Title compds. (I; R = alkyl, alkoxy, protected OH; R1 = alkoxy, PhO, PhCH2O, Cl, Br; R2 = alkyl, alkoxy; n = 0-2), were prepared Thus, di-Ph 2-iodo-3-(methoxyphenyl)phosphonate (preparation from 3-bromoanisole given) was heated with activated Cu powder in DMF at 140° to give di-Ph RS-(6,6'-dimethoxybiphenyl-2,2'-diyl)bisphosphonate (RS-II). II was treated with (-)-O,O'-dibenzoyl-L-tartaric acid (III) in CH2Cl2/EtOAc to give (R)-II.III, which in CH2Cl2 was stirred with NaHCO3 in H2O to give (R)-II.

IT 145306-47-4P 145306-48-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and decomposition reaction of)

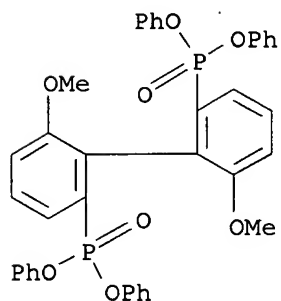
RN 145306-47-4 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with (R)-tetraphenyl (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[phosphonate] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 145265-36-7

CMF C38 H32 O8 P2

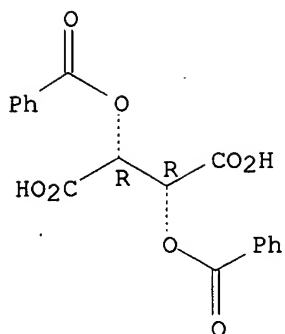


CM 2

CRN 2743-38-6

CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).



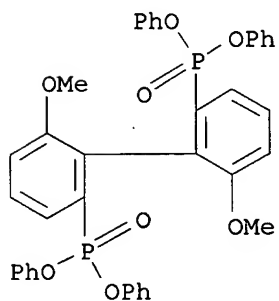
RN 145306-48-5 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [S-(R*,R*)]-, compd. with
(S)-tetraphenyl (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[phosphonate]
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 145265-37-8

CMF C38 H32 O8 P2

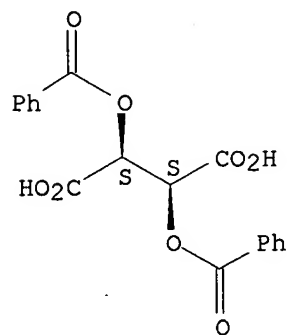


CM 2

CRN 17026-42-5

CMF C18 H14 O8

Absolute stereochemistry. Rotation (+).



IT 133545-23-0P 133577-82-9P 133577-84-1P
133577-88-5P 133577-89-6P 145209-27-4P

145209-28-5P 145209-29-6P 145265-43-6P

145265-44-7P

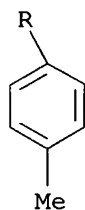
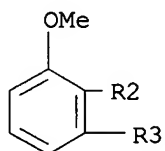
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(preparation and reduction of)

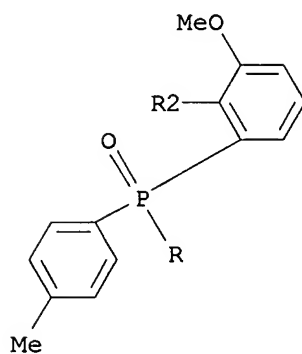
RN 133545-23-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-
methylphenyl)- (9CI) (CA INDEX NAME)

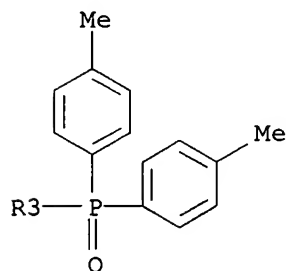
PAGE 1-A



PAGE 2-A

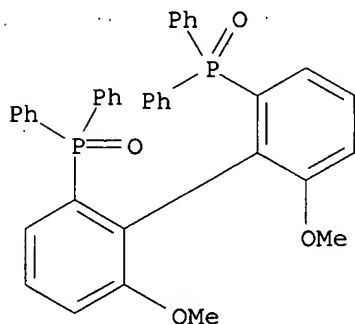


PAGE 3-A



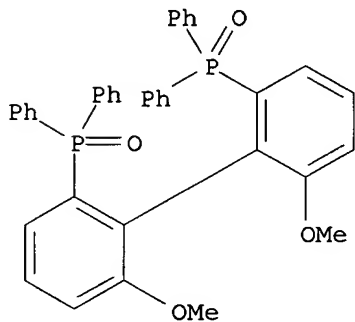
RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)



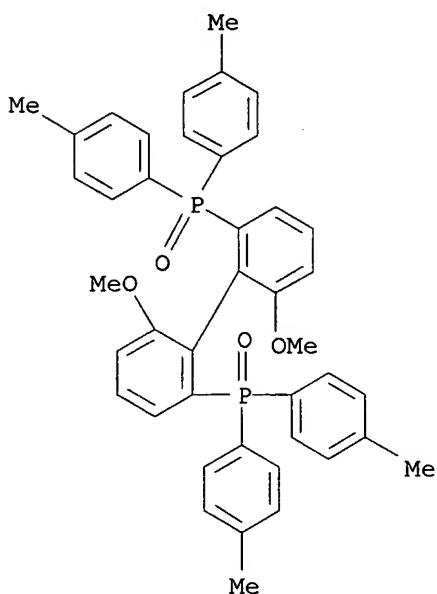
RN 133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



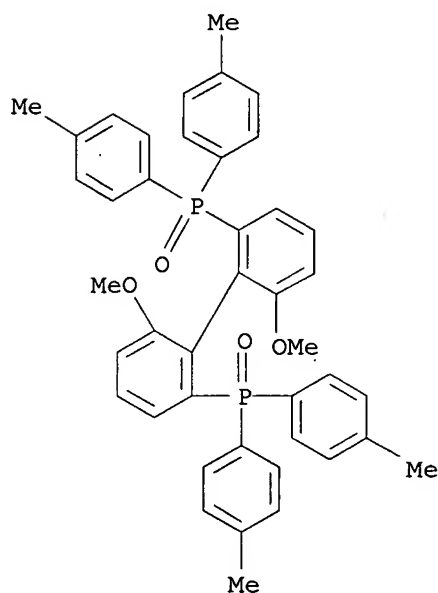
RN 133577-88-5 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)



RN 133577-89-6 CAPLUS

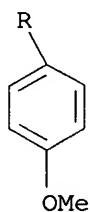
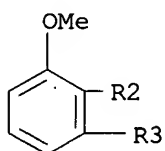
CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]

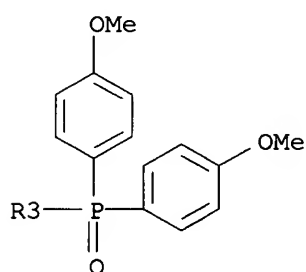
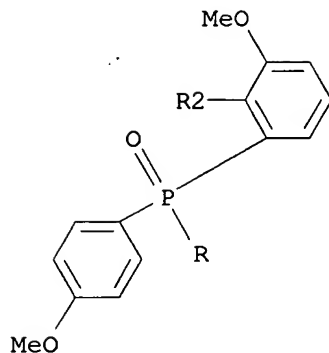


RN 145209-27-4 CAPLUS

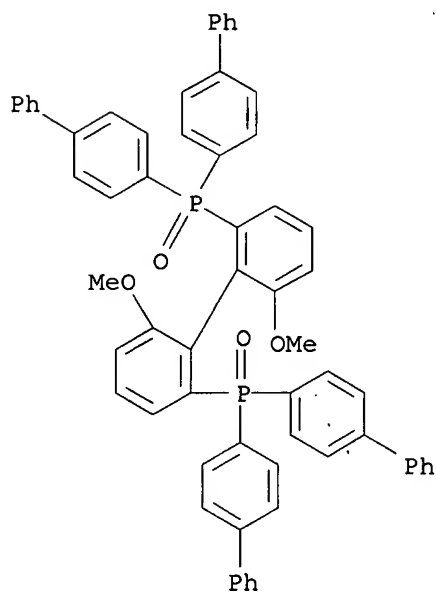
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)]

PAGE 1-A

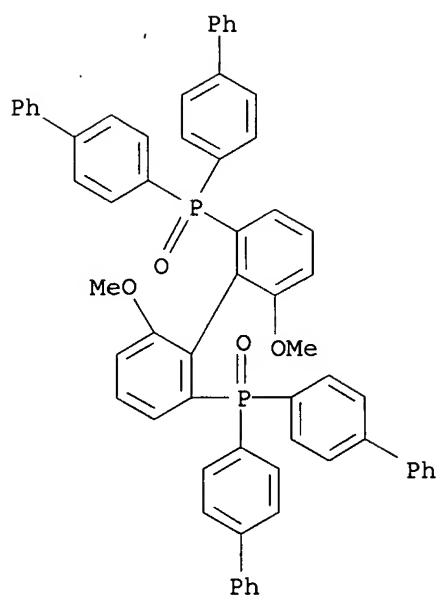




RN 145209-28-5 CAPLUS
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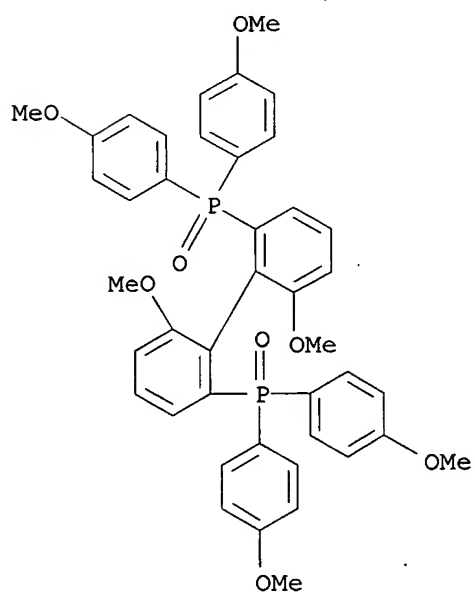


RN 145209-29-6 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1'-biphenyl]-4-yl)-, (S)- (9CI) (CA INDEX NAME)



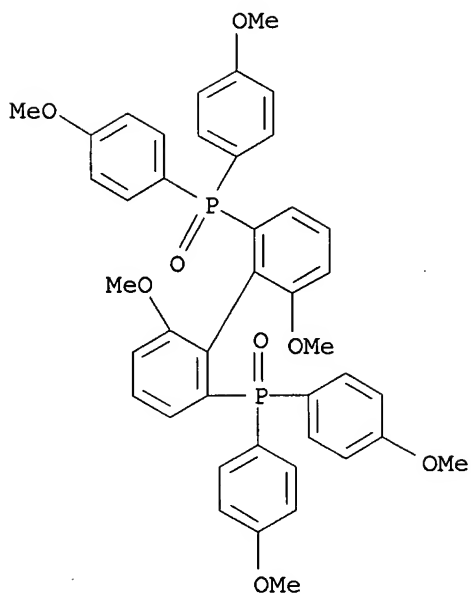
RN 145265-43-6 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)-, (R)- (9CI) (CA INDEX NAME)

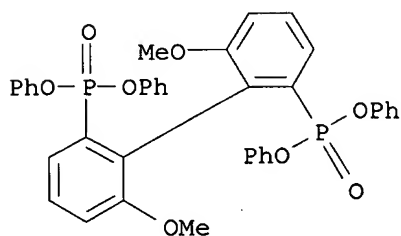


RN 145265-44-7 CAPLUS

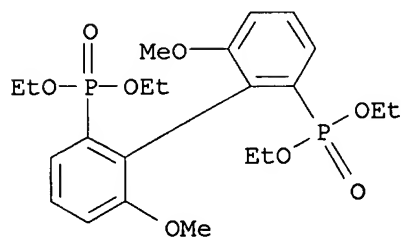
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)-, (S)- (9CI) (CA INDEX NAME)



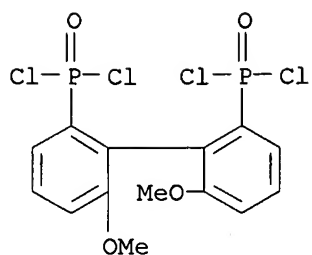
IT 145209-12-7P 145209-14-9P 145209-18-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and resolution of)
 RN 145209-12-7 CAPLUS
 CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-,
 tetraphenyl ester (9CI) (CA INDEX NAME)



RN 145209-14-9 CAPLUS
 CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraethyl
 ester (9CI) (CA INDEX NAME)



RN 145209-18-3 CAPLUS
 CN Phosphonic dichloride, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis- (9CI)
 (CA INDEX NAME)

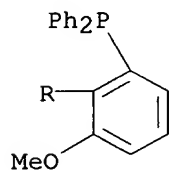
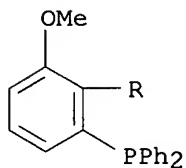


IT 133545-16-1P 133545-17-2P 133545-24-1P
 133545-25-2P 133577-94-3P 145209-16-1P
 145209-17-2P 145209-24-1P 145209-25-2P
 145209-26-3P 145264-54-6P 145265-36-7P
 145265-37-8P 145265-38-9P 145265-39-0P
 145265-40-3P 145265-41-4P 145265-42-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

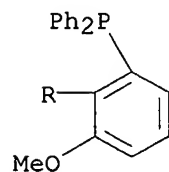
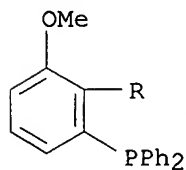
RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 133545-17-2 CAPLUS

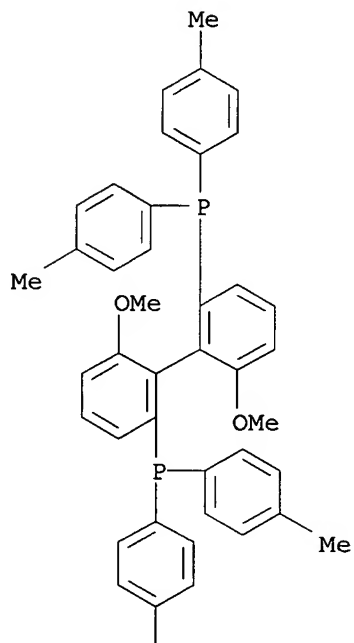
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



RN 133545-24-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A



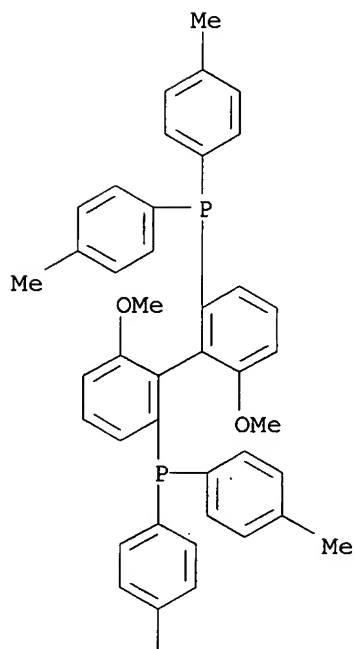
PAGE 2-A



RN 133545-25-2 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]

PAGE 1-A

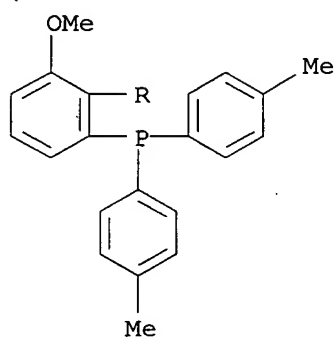


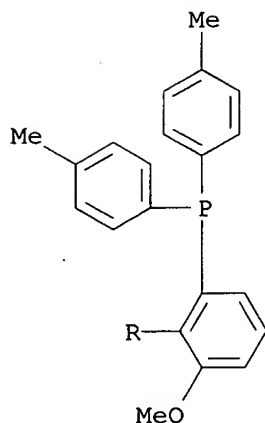
PAGE 2-A



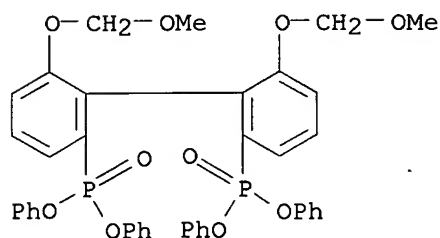
RN 133577-94-3 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-(9CI) (CA INDEX NAME)

PAGE 1-A

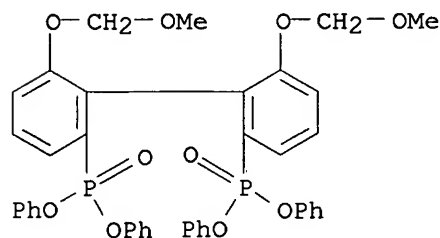




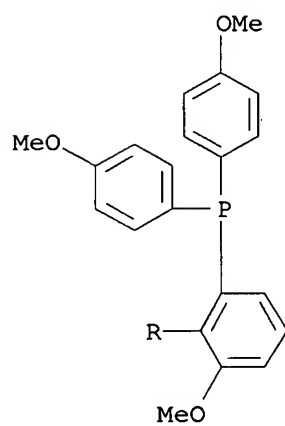
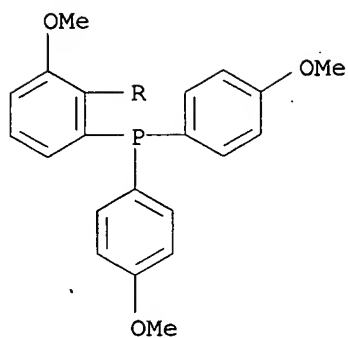
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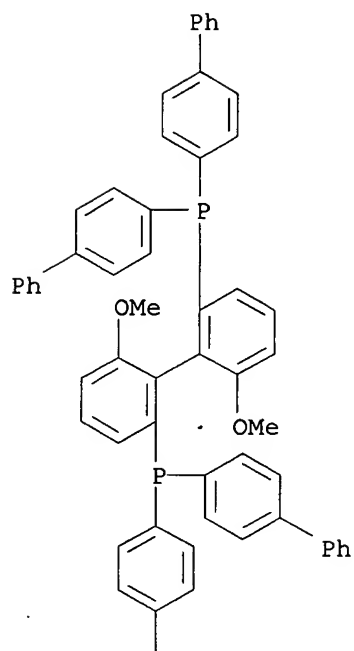
RN 145209-17-2 CAPLUS
 CN Phosphonic acid, [6,6'-bis(methoxymethoxy)[1,1'-biphenyl]-2,2'-diyl]bis-, tetraphenyl ester, (S)- (9CI) (CA INDEX NAME)



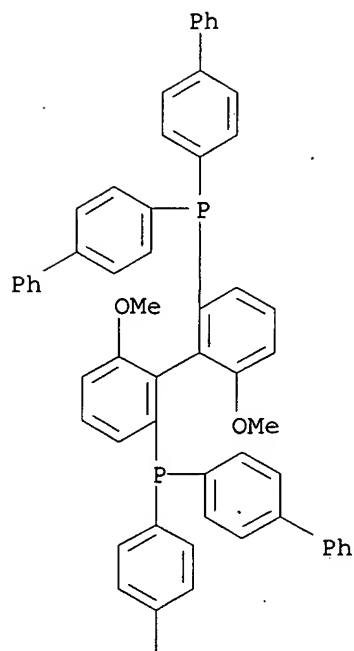
RN 145209-24-1 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



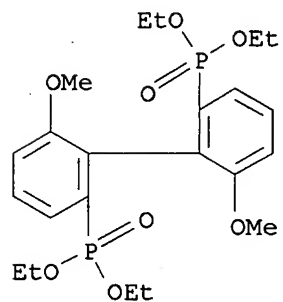
RN 145209-25-2 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1'-biphenyl]-4-yl)-, (R)- (9CI) (CA INDEX NAME)



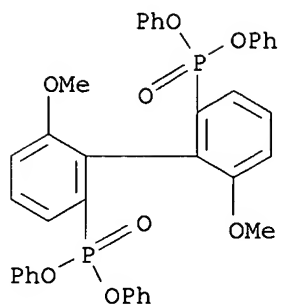
RN 145209-26-3 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)]



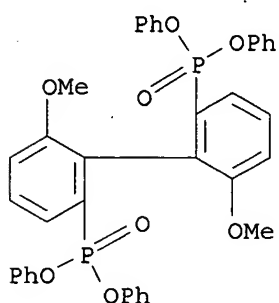
RN 145264-54-6 CAPLUS
 CN Phosphonic acid, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-,
 tetraethyl ester (9CI) (CA INDEX NAME)



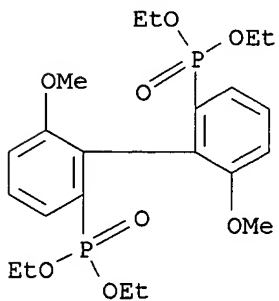
RN 145265-36-7 CAPLUS
 CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-,
 tetraphenyl ester, (R)- (9CI) (CA INDEX NAME)



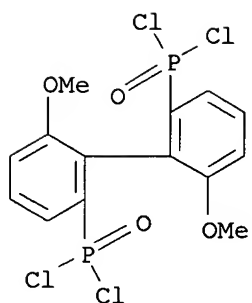
RN 145265-37-8 CAPLUS
 CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraphenyl ester, (S)- (9CI) (CA INDEX NAME)



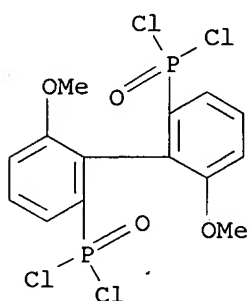
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 CN Phosphonic acid, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-, tetraethyl ester (9CI) (CA INDEX NAME)



RN 145265-39-0 CAPLUS
 CN Phosphonic dichloride, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis- (9CI) (CA INDEX NAME)

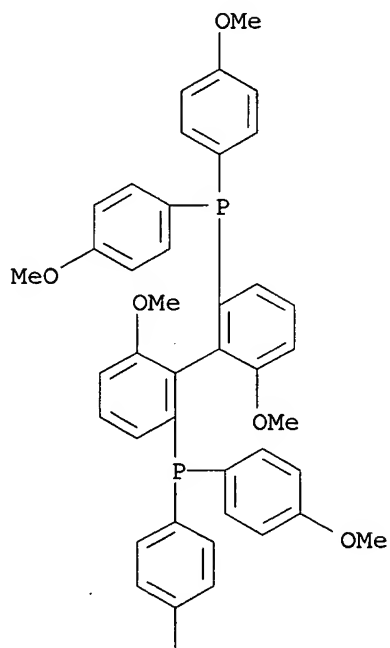


RN 145265-40-3 CAPLUS
 CN Phosphonic dichloride, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, (S)-
 (9CI) (CA INDEX NAME)



RN 145265-41-4 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)-, (R)- (9CI) (CA INDEX NAME)

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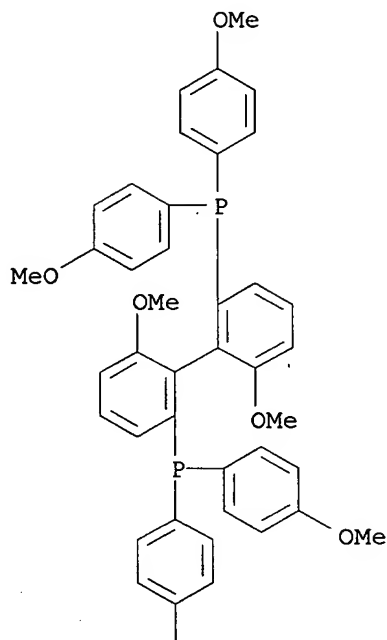


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RN 145265-42-5 CAPLUS
CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)]

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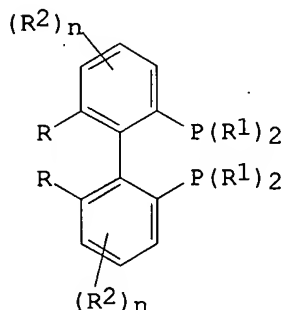


PAGE 2-A



L3 ANSWER 209 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1993:59878 CAPLUS
DOCUMENT NUMBER: 118:59878
TITLE: Preparation of racemic and optically active biphenyl-2,2-bisphosphines
INVENTOR(S): Broger, Emil Albin; Foricher, Joseph; Heiser, Bernd; Schmid, Rudolf
PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9216536	A1	19921001	WO 1992-CH49	19920311
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
EP 530336	A1	19930310	EP 1992-905551	19920311
EP 530336	B1	19960306		
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, NL, SE				
JP 05507294	T	19931021	JP 1992-504836	19920311
JP 3204667	B2	20010904		
AT 135008	T	19960315	AT 1992-905551	19920311
US 5274125	A	19931228	US 1992-949871	19921113
PRIORITY APPLN. INFO.:			CH 1991-805	A 19910315
			CH 1992-697	A 19920305
			WO 1992-CH49	W 19920311
OTHER SOURCE(S):		MARPAT 118:59878		
GI				

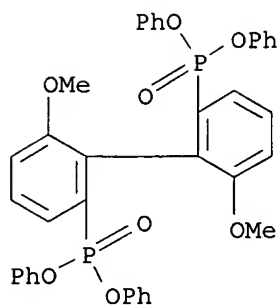


AB Title compds. (I; R = alkyl, alkoxy, protected OH; R1 = 5 ring atom containing heteroaryl; R2 = alkyl, alkoxy; n = 0-2), were prepared Thus, R-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(phosphonic acid di-Ph ester) (preparation given) in THF was added to the Grignard reagent from 2-iodofuran in THF and the mixture was stirred 1 h at 40° to give the bis(di-2-furylphosphine oxide), which was refluxed with Cl3SiH and Bu3N in xylene to give, after heating with aqueous NaOH, R-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(di-2-furylphosphine). I were used in asym. hydrogenation reactions.

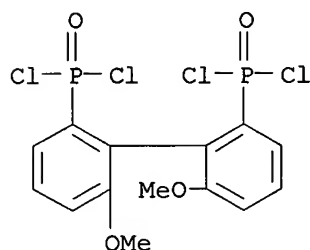
IT 145265-36-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and Grignard reaction of, with iodofuran)

RN 145265-36-7 CAPLUS

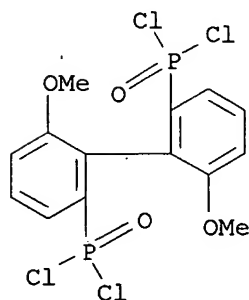
CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraphenyl ester, (R)- (9CI) (CA INDEX NAME)



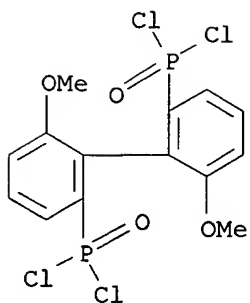
IT 145209-18-3P 145265-40-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and condensation of, with benzothiopehen derivative)
 RN 145209-18-3 CAPLUS
 CN Phosphonic dichloride, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis- (9CI)
 (CA INDEX NAME)



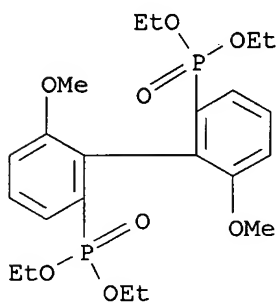
RN 145265-40-3 CAPLUS
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 (9CI) (CA INDEX NAME)



IT 145265-39-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and condensation of, with benzothiophene)
 RN 145265-39-0 CAPLUS
 CN Phosphonic dichloride, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-
 (9CI) (CA INDEX NAME)



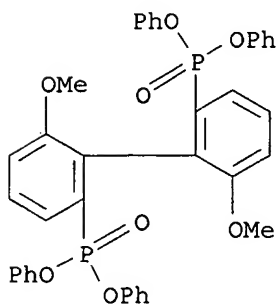
IT 145264-54-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and conversion of, bis(phosphinyldichloride) derivative)
 RN 145264-54-6 CAPLUS
 CN Phosphonic acid, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-,
 tetraethyl ester (9CI) (CA INDEX NAME)



IT 145306-47-4P 145306-48-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and decomposition of)
 RN 145306-47-4 CAPLUS
 CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with
 (R)-tetraphenyl (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[phosphonate]
 (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 145265-36-7
 CMF C38 H32 O8 P2

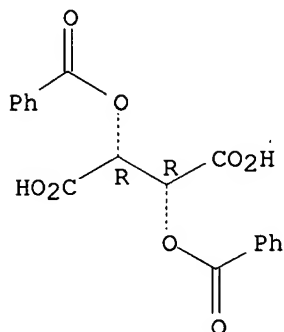


CM 2

CRN 2743-38-6

CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).



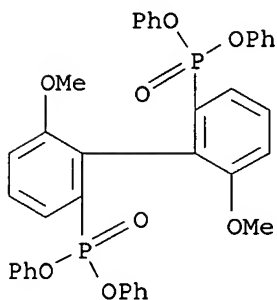
RN 145306-48-5 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [S-(R*,R*)]-, compd. with
(S)-tetraphenyl (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[phosphonate]
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 145265-37-8

CMF C38 H32 O8 P2

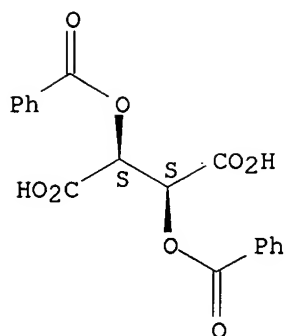


CM 2

CRN 17026-42-5

CMF C18 H14 O8

Absolute stereochemistry. Rotation (+).

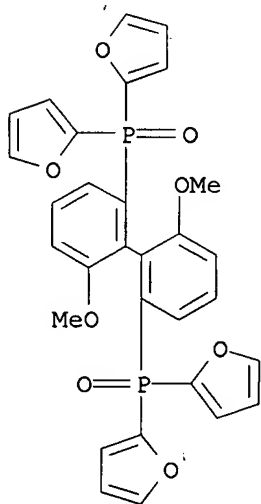


IT 145214-56-8P 145214-58-0P 145214-60-4P
 145214-61-5P 145214-62-6P 145214-63-7P
 145214-64-8P 145214-70-6P 145214-71-7P
 145214-72-8P 145214-74-0P 145214-75-1P
 145214-76-2P 145214-77-3P 145214-78-4P
 145214-79-5P 145264-43-3P 145264-44-4P
 145264-45-5P 145264-53-5P 145264-55-7P
 145264-56-8P 145264-57-9P 145264-58-0P
 145264-61-5P 145264-63-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and reduction of)

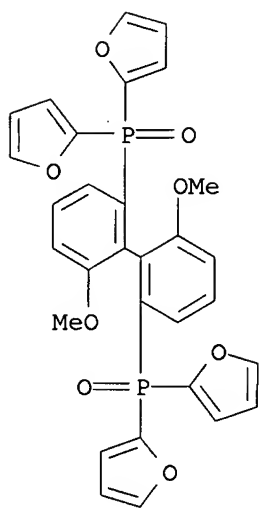
RN 145214-56-8 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-furanyl-
 , (R)- (9CI) (CA INDEX NAME)

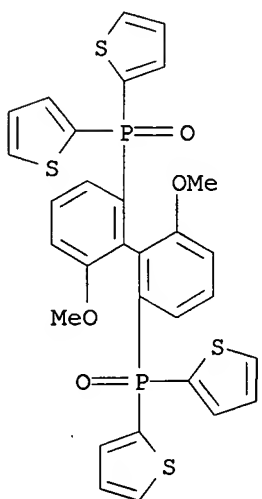


RN 145214-58-0 CAPLUS

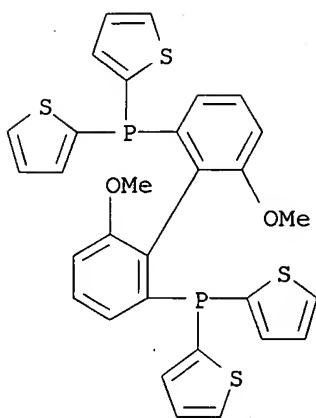
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-furanyl-
 , (S)- (9CI) (CA INDEX NAME)



RN 145214-60-4 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-thienyl-, (R)- (9CI) (CA INDEX NAME)

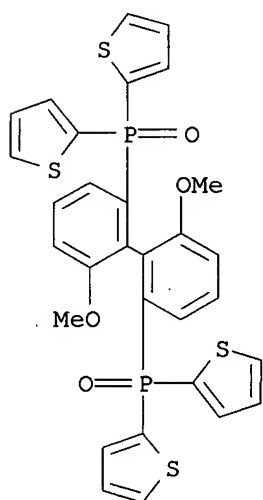


RN 145214-61-5 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-thienyl-, (R)- (9CI) (CA INDEX NAME)



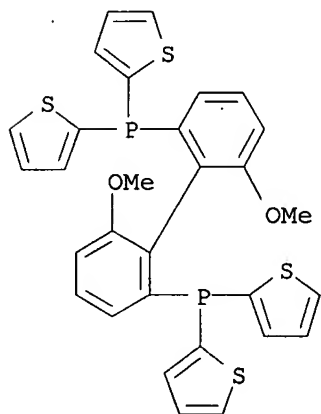
RN 145214-62-6 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-thienyl-, (S)- (9CI) (CA INDEX NAME)



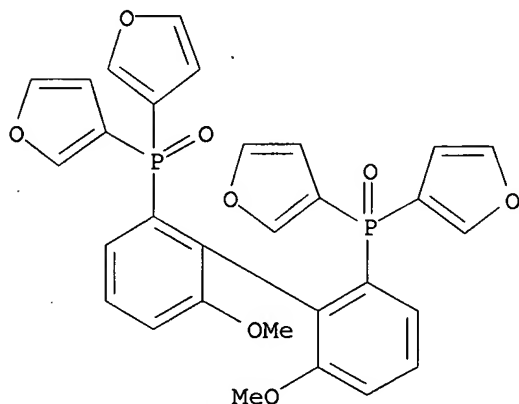
RN 145214-63-7 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-thienyl- (CA INDEX NAME)



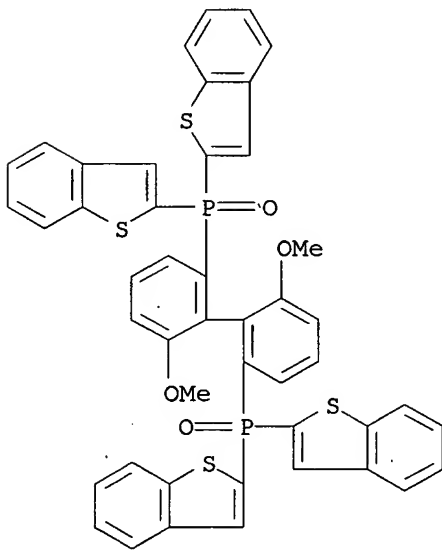
RN 145214-64-8 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-3-furanyl-
(9CI) (CA INDEX NAME)



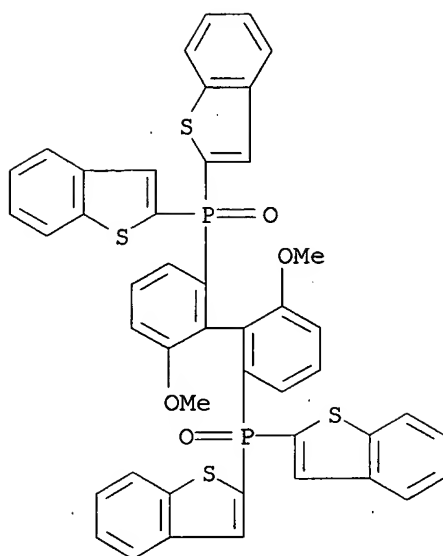
RN 145214-70-6 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
diyl)bis[bis(benzo[b]thien-2-yl)-, (R)- (9CI) (CA INDEX NAME)



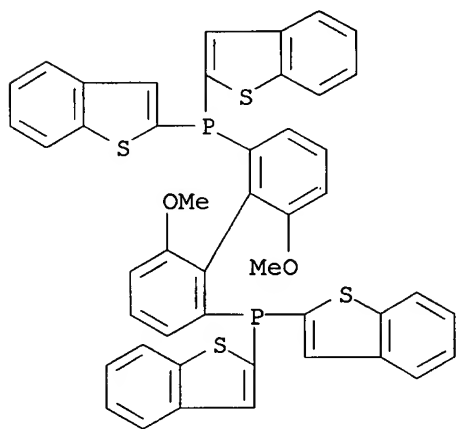
RN 145214-71-7 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-
diyl)bis[bis(benzo[b]thien-2-yl)-, (S)- (9CI) (CA INDEX NAME)



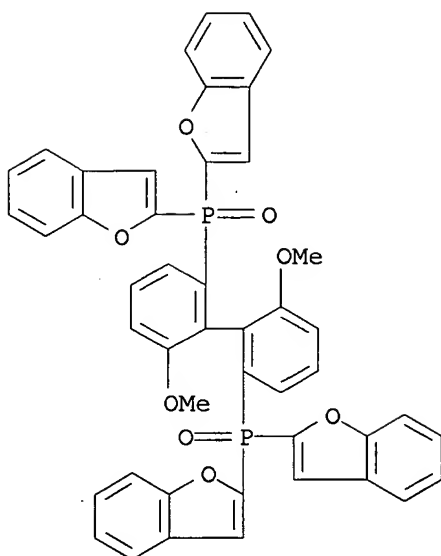
RN 145214-72-8 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(benzo[b]thien-2-yl)-, (R)- (9CI) (CA INDEX NAME)



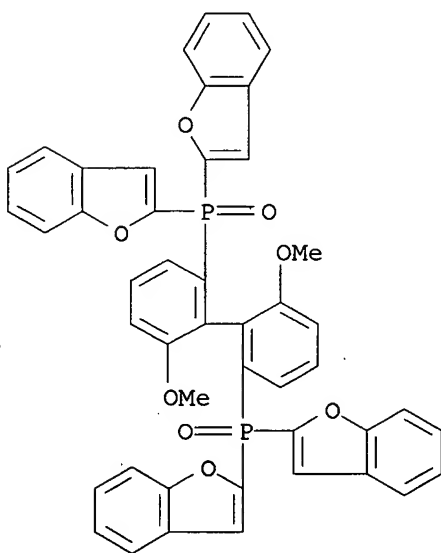
RN 145214-74-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-benzofuranyl)-, (R)- (9CI) (CA INDEX NAME)



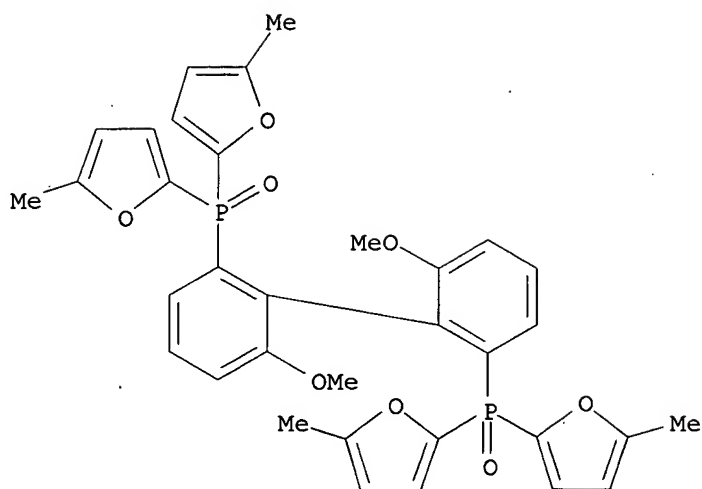
RN 145214-75-1 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-benzofuranyl)-, (S)- (9CI) (CA INDEX NAME)

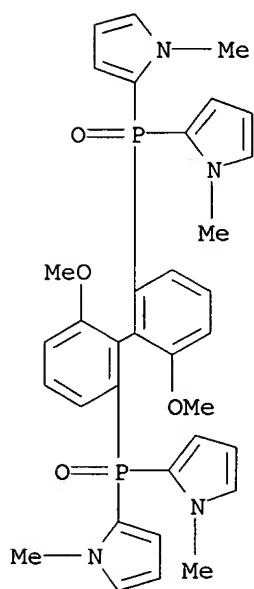


RN 145214-76-2 CAPLUS

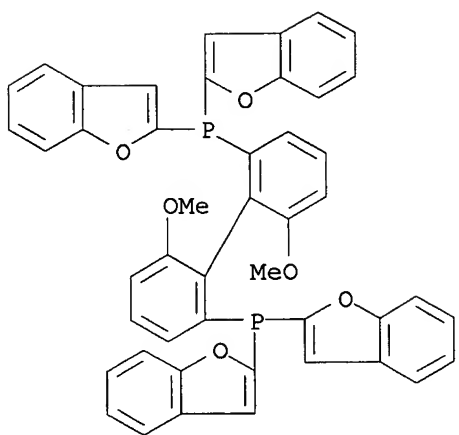
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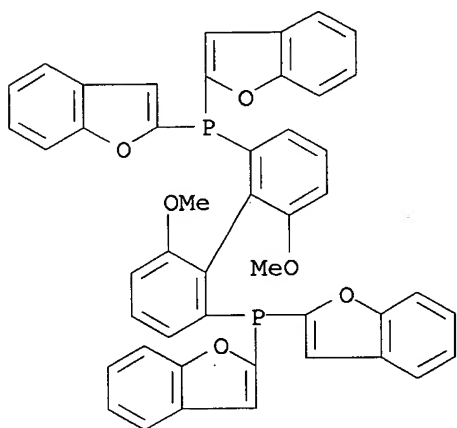
RN 145214-77-3 CAPLUS
 CN 1H-Pyrrole, 2,2',2'',2'''-[(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)diphosphinyldiyne]tetrakis[1-methyl- (9CI) (CA INDEX NAME)



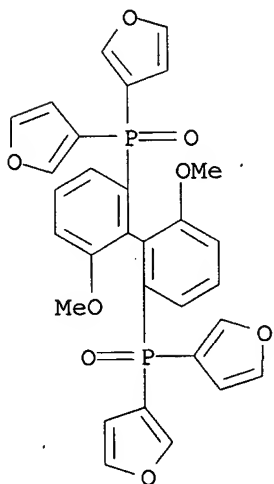
RN 145214-78-4 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-benzofuranyl)-, (R)- (9CI) (CA INDEX NAME)



RN 145214-79-5 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-benzofuranyl)-, (S)- (9CI) (CA INDEX NAME)

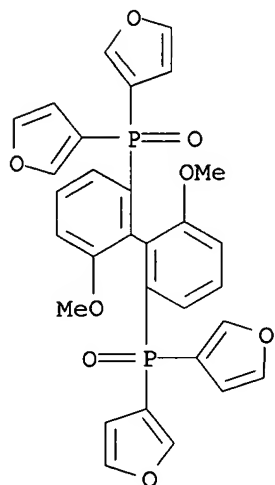


RN 145264-43-3 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-3-furanyl-, (R)- (9CI) (CA INDEX NAME)



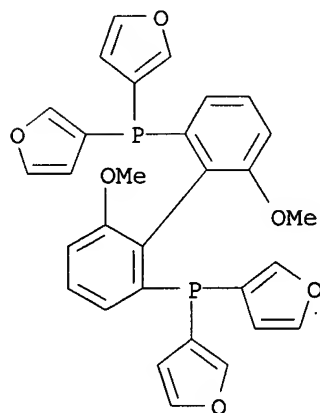
RN 145264-44-4 CAPLUS

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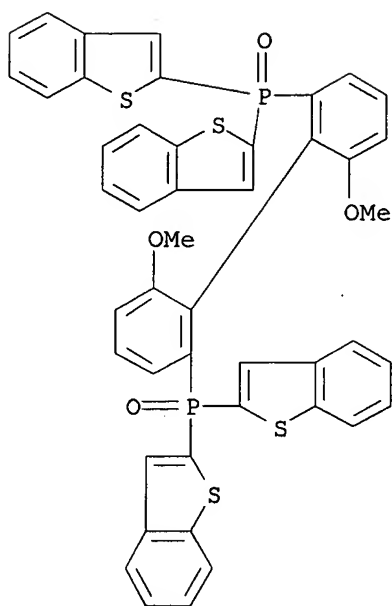
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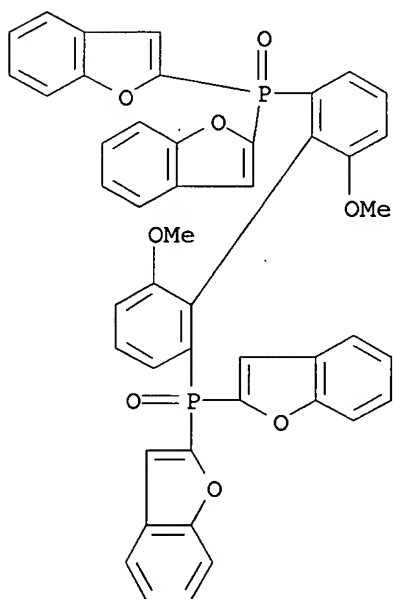
RN 145264-53-5 CAPLUS

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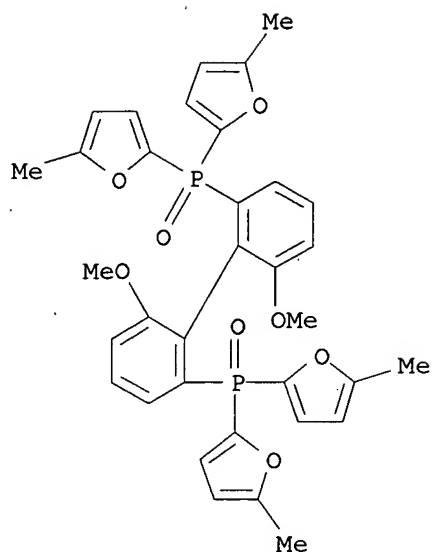
RN 145264-55-7 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-benzofuranyl)-(9CI)] (CA INDEX NAME)



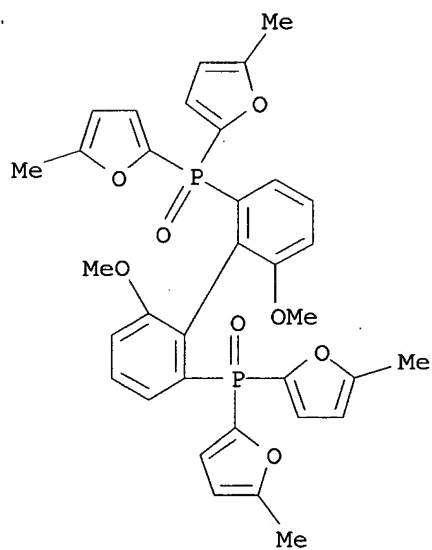
RN 145264-56-8 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(5-methyl-2-furanyl)-(R)] (CA INDEX NAME)



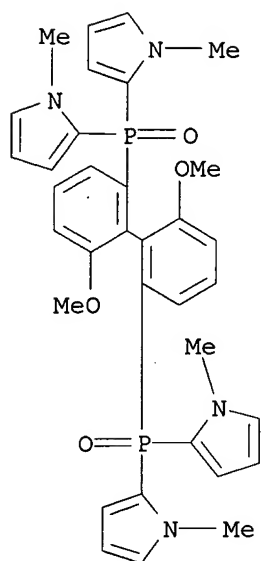
RN 145264-57-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(5-methyl-2-furanyl)-, (S)- (9CI) (CA INDEX NAME)



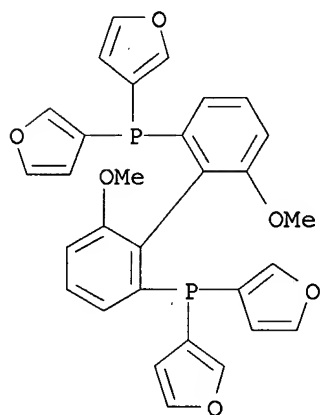
RN 145264-58-0 CAPLUS

CN 1H-Pyrrole, 2,2',2'',2'''-[(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)diphosphinyldiyne]tetrakis[1-methyl-, (R)- (9CI) (CA INDEX NAME)



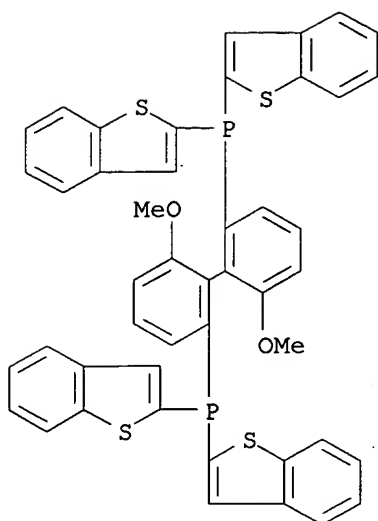
RN 145264-61-5 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-3-furanyl-
(9CI) (CA INDEX NAME)]

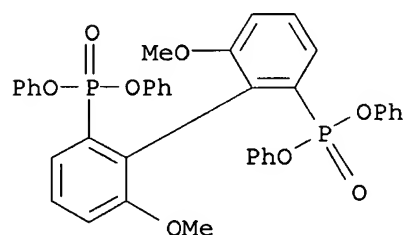


RN 145264-63-7 CAPLUS

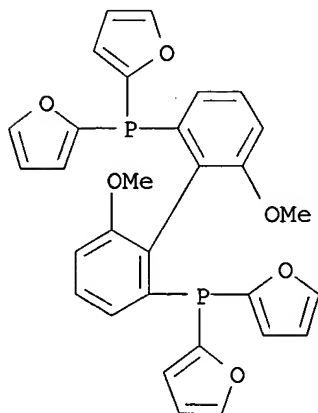
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(benzo[b]thien-
2-yl)- (9CI) (CA INDEX NAME)]



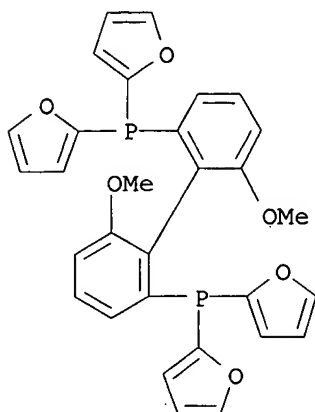
IT 145209-12-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and resolution of)
 RN 145209-12-7 CAPLUS
 CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-,
 tetraphenyl ester (9CI) (CA INDEX NAME)



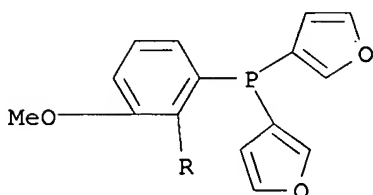
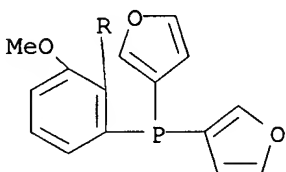
IT 145214-57-9P 145214-59-1P 145214-65-9P
 145214-73-9P 145214-80-8P 145214-81-9P
 145264-59-1P 145264-60-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 145214-57-9 CAPLUS
 CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-
 (9CI) (CA INDEX NAME)



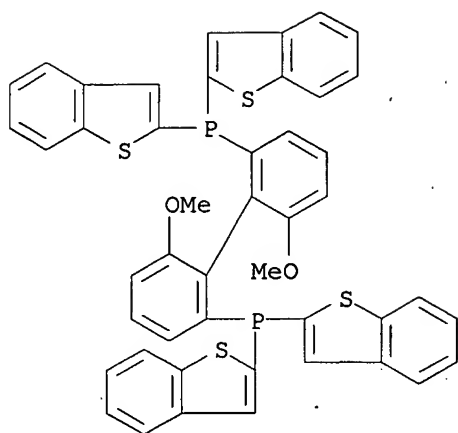
RN 145214-59-1 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-
 (9CI) (CA INDEX NAME)



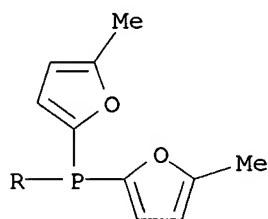
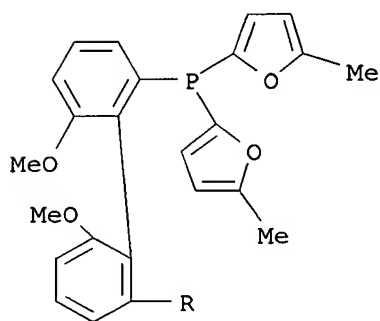
RN 145214-65-9 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-3-furanyl-
 (9CI) (CA INDEX NAME)



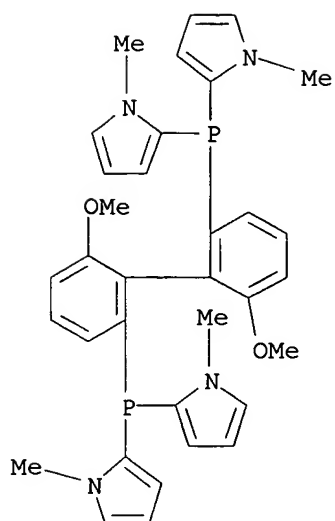
RN 145214-73-9 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(benzo[b]thien-
 2-yl)-, (S)- (9CI) (CA INDEX NAME)



RN 145214-80-8 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(5-methyl-2-furanyl)- (9CI) (CA INDEX NAME)

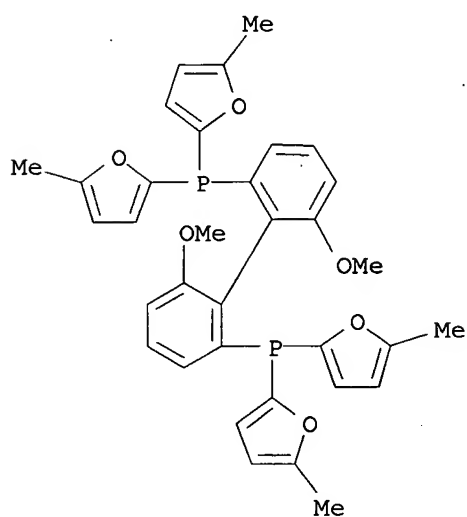


RN 145214-81-9 CAPLUS
 CN 1H-Pyrrole, 2,2',2'',2'''-[(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)diphosphinidyne]tetrakis[1-methyl- (9CI) (CA INDEX NAME)



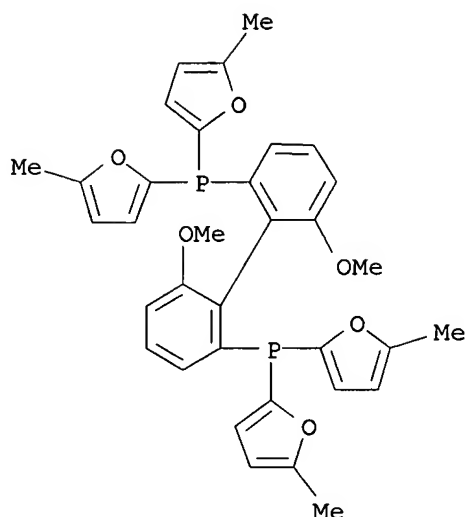
RN 145264-59-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(5-methyl-2-furanyl)-, (R)- (9CI) (CA INDEX NAME)



RN 145264-60-4 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(5-methyl-2-furanyl)-, (S)- (9CI) (CA INDEX NAME)



L3 ANSWER 210 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:463305 CAPLUS

DOCUMENT NUMBER: 115:63305

TITLE: New efficient methods for the synthesis and in-situ preparation of ruthenium(II) complexes of atropoisomeric diphosphines and their application in asymmetric catalytic hydrogenations

AUTHOR(S): Heiser, Bernd; Broger, Emil A.; Cramer, Yvo

CORPORATE SOURCE: Cent. Res. Units, F. Hoffmann-La Roche Ltd., Basel, CH-4002, Switz.

SOURCE: Tetrahedron: Asymmetry (1991), 2(1), 51-62

CODEN: TASYE3; ISSN: 0957-4166

DOCUMENT TYPE: Journal

LANGUAGE: English

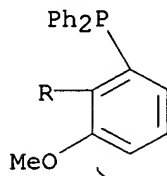
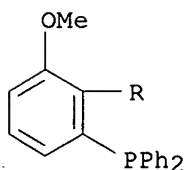
AB A new synthetically useful method for the synthesis of (P-P)Ru(O₂CR)₂ [R = CF₃ and CH₃; P-P = 6,6'-dimethyl- and 6,6'-dimethoxybiphenyl(2,2'-diyl)bis(diphenylphosphine) and 1,1'-binaphthyl-2,2'-diylbis(diphenylphosphine) and -di-p-tolylphosphine)] is presented, which uses the easily accessible complex (COD)₂Ru₂(μ-O₂CCF₃)₄ as starting material. This complex as well as (COD)Ru(η²-OAc)₂ and (COD)₂Ru₂Cl₄(NCCH₃) are suitable precursor complexes for the in-situ preparation of Ru(II) dicarboxylato and dichloro complexes of atropisomeric diphosphines, resp. The high efficacy of the preformed and in-situ generated Ru complexes as precatalysts is demonstrated in asym. hydrogenations of allylic alcs., enamides, and a β-keto ester.

IT 133545-16-1

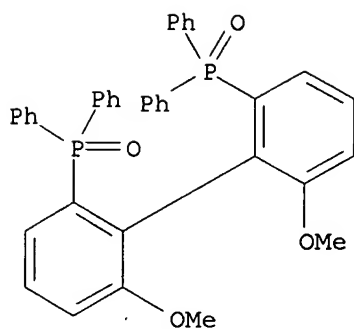
RL: RCT (Reactant); RACT (Reactant or reagent)
(asym. hydrogenation catalysts containing, for keto esters)

RN 133545-16-1 CAPLUS

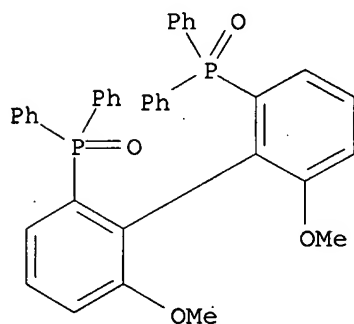
CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1'-diphenyl- (CA INDEX NAME)]



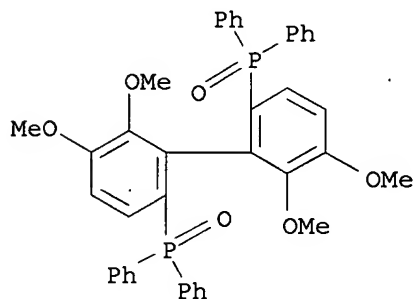
L3 ANSWER 211 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1991:429462 CAPLUS
 DOCUMENT NUMBER: 115:29462
 TITLE: Axially dissymmetric diphosphines in the biphenyl series: synthesis of (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine) ('MeO-BIPHEP') and analogs via an ortho-lithiation/iodination Ullmann-reaction approach
 AUTHOR(S): Schmid, Rudolf; Foricher, Joseph; Cereghetti, Marco; Schoenholzer, Peter
 CORPORATE SOURCE: Zent. Forschungseinheiten, F. Hoffmann-La Roche A.-G., Basel, CH-4002, Switz.
 SOURCE: Helvetica Chimica Acta (1991), 74(2), 370-89
 CODEN: HCACAV; ISSN: 0018-019X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 115:29462
 AB The new axially dissym. diphosphines (R)- and (S)-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine) [(R)- and (S)-I] and their analogs have been synthesized in enantiomerically pure form by a synthetic scheme which employs, as key steps, an ortho-lithiation/iodination reaction and a subsequent Ullmann reaction of the resulting iodides. The Ullmann reaction constitutes a new and efficient route to 2,2'-bis(phosphinoyl)-substituted biphenyl systems. Absolute configurations were established for (R)-I by x-ray anal. of the derived Pd complex. I proved to be as efficient as the previously described diphosphine (6,6'-dimethylbiphenyl-2,2'-diyl)bis(diphenylphosphine) in enantioselective isomerizations and hydrogenations.
 IT 133577-82-9P 133577-84-1P 133577-86-3P
 133577-87-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reduction of)
 RN 133577-82-9 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)]



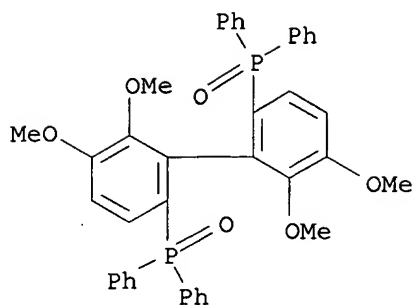
RN 133577-84-1 CAPLUS
 CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



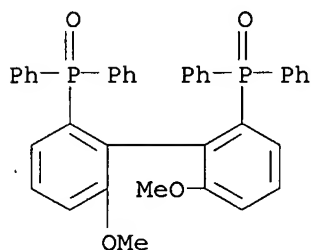
RN 133577-86-3 CAPLUS
 CN Phosphine oxide, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



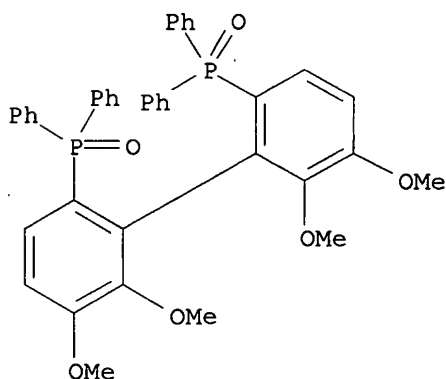
RN 133577-87-4 CAPLUS
 CN Phosphine oxide, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)]



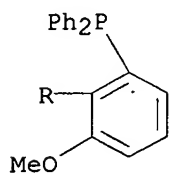
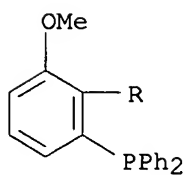
IT 133545-15-0P 133545-18-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and resolution of)
 RN 133545-15-0 CAPLUS
 CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-
 (9CI) (CA INDEX NAME)



RN 133545-18-3 CAPLUS
 CN Phosphine oxide, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-
 diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

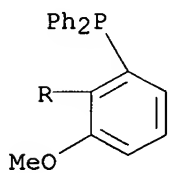
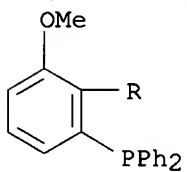


IT 133545-16-1P 133545-17-2P 133545-19-4P
 133545-20-7P 133577-83-0P 133577-85-2P
 133577-92-1P 133577-93-2P 133644-94-7P
 134435-30-6P 134435-31-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
 diphenyl- (CA INDEX NAME)



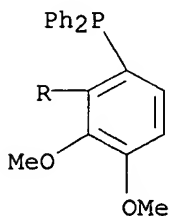
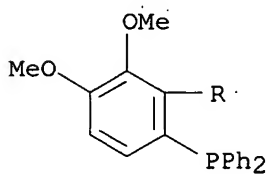
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



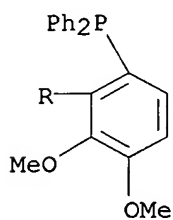
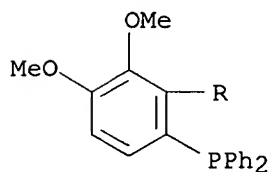
RN 133545-19-4 CAPLUS

CN Phosphine, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 133545-20-7 CAPLUS

CN Phosphine, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



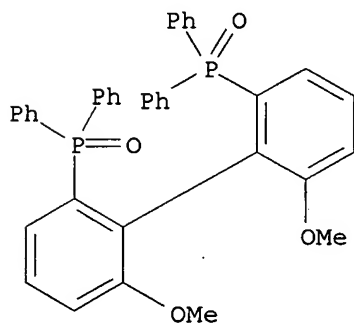
RN 133577-83-0 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with (R)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-82-9

CMF C38 H32 O4 P2

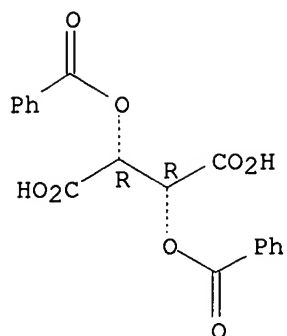


CM 2

CRN 2743-38-6

CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).



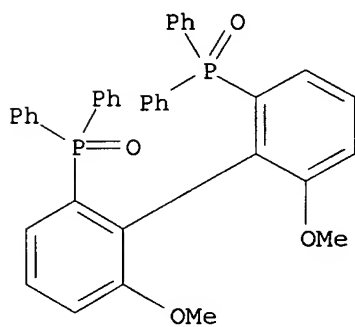
RN 133577-85-2 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [S-(R*,R*)]-, compd. with .
(S)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide]
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-84-1

CMF C38 H32 O4 P2

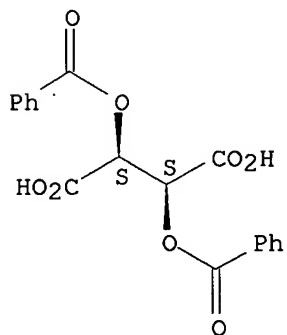


CM 2

CRN 17026-42-5

CMF C18 H14 O8

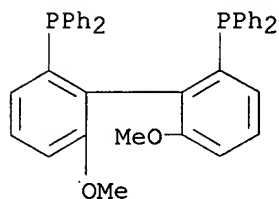
Absolute stereochemistry. Rotation (+).



RN 133577-92-1 CAPLUS

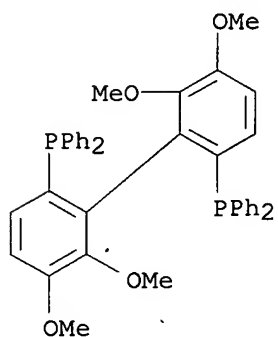
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)

(CA INDEX NAME)



RN 133577-93-2 CAPLUS

CN Phosphine, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-
(9CI) (CA INDEX NAME)



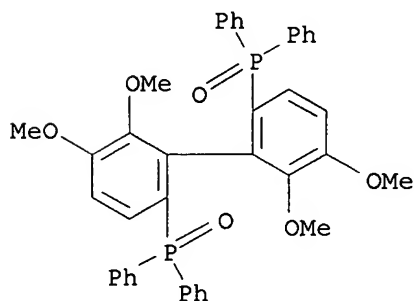
RN 133644-94-7 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with
(S)-(5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine
oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-86-3

CMF C40 H36 O6 P2

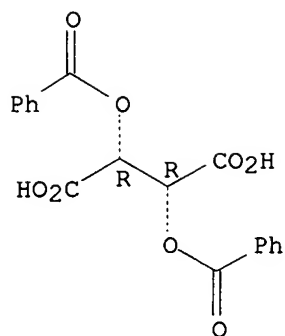


CM 2

CRN 2743-38-6

CMF C18 H14 O8

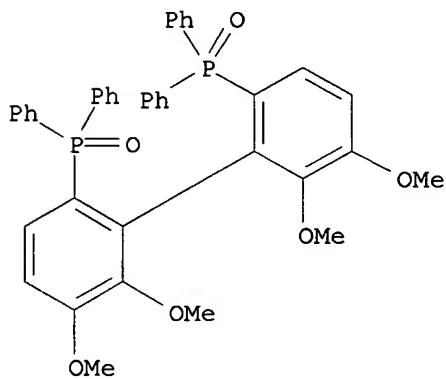
Absolute stereochemistry. Rotation (-).



RN 134435-30-6 CAPLUS
 CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with
 (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine
 oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

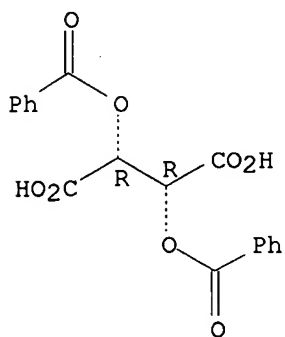
CRN 133545-18-3
 CMF C40 H36 O6 P2



CM 2

CRN 2743-38-6
 CMF C18 H14 O8

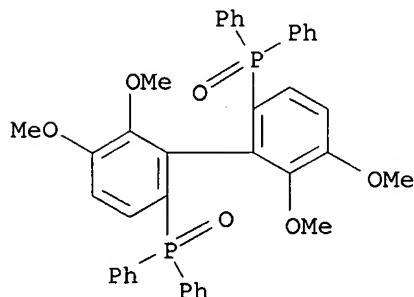
Absolute stereochemistry. Rotation (-).



RN 134435-31-7 CAPLUS
CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [S-(R*,R*)]-, compd. with
(R)-(5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine
oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

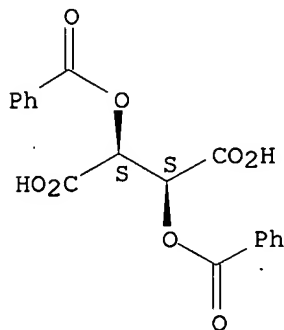
CRN 133577-87-4
CMF C40 H36 O6 P2



CM 2

CRN 17026-42-5
CMF C18 H14 O8

Absolute stereochemistry. Rotation (+).



L3 ANSWER 212 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:247526 CAPLUS
DOCUMENT NUMBER: 114:247526
TITLE: Preparation of chiral biphenyldiylbis(diphenylphosphine)
e) derivatives and catalysts containing them
INVENTOR(S): Cereghetti, Marco Dr; Foricher, Joseph; Heiser, Bernd
Dr; Schmid, Rudolf Dr
PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.
SOURCE: Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 398132	A2	19901122	EP 1990-108686	19900509
EP 398132	A3	19910724		
EP 398132	B1	19950920		
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, NL				
AT 128140	T	19951015	AT 1990-108686	19900509
JP 03005492	A	19910111	JP 1990-128108	19900517
JP 2940626	B2	19990825		
US 5488172	A	19960130	US 1994-294895	19940823
PRIORITY APPLN. INFO.:			CH 1989-1905	A 19890518
			CH 1990-880	A 19900316
			US 1990-521498	B1 19900510
			US 1992-884628	B1 19920515
			US 1993-152932	B1 19931115

OTHER SOURCE(S): MARPAT 114:247526

GI For diagram(s), see printed CA Issue.

AB The title compds. (I; R1 = alkyl; R2,R3 = H, alkoxy), were prepared for use as catalysts in enantioselective reactions (hydrogenations, rearrangements). Thus, (2-iodo-3-methoxyphenyl)diphenylphosphine oxide was dimerized using iodine-activated Cu in DMF to give 90.7% RS-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine oxide). The latter was resolved using D- or L-dibenzoyltartaric acid and the R-enantiomer in Bu3N/xylene/HSiCl3 at 0° was treated with aqueous NaOH to give 97.3% R-II. Geraniol was hydrogenated to S-citronellol in 98.9% e.e. using Ru(R-II)(CF3CO2)2 catalyst and 60 bar H in MeOH at 20°.

IT 133577-83-0P 133577-85-2P 133644-94-7P

133644-95-8P 133644-96-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and decomposition of)

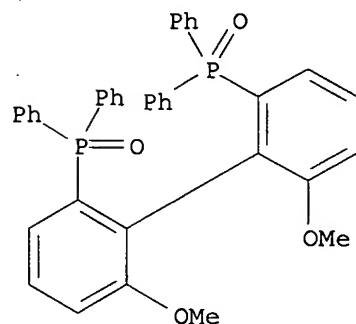
RN 133577-83-0 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with (R)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-82-9

CMF C38 H32 O4 P2

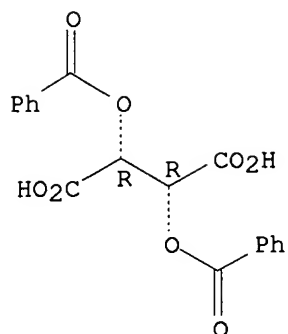


CM 2

CRN 2743-38-6

CMF C18 H14 O8

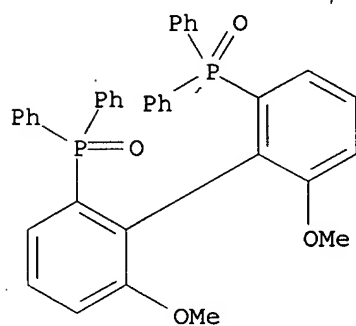
Absolute stereochemistry. Rotation (-).



RN 133577-85-2 CAPLUS
 CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [\dot{S} -(R^* , R^*)]-, compd. with
 (S)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide]
 (1:1) (9CI) (CA INDEX NAME)

CM 1

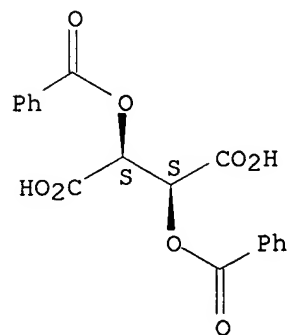
CRN 133577-84-1
 CMF C38 H32 O4 P2



CM 2

CRN 17026-42-5
 CMF C18 H14 O8

Absolute stereochemistry. Rotation (+).



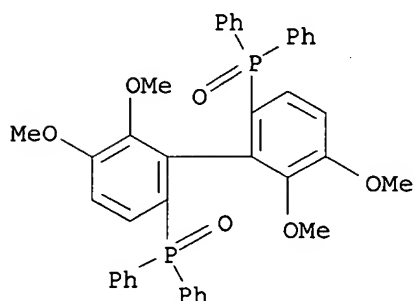
RN 133644-94-7 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with
(S)-(5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine
oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-86-3

CMF C40 H36 O6 P2

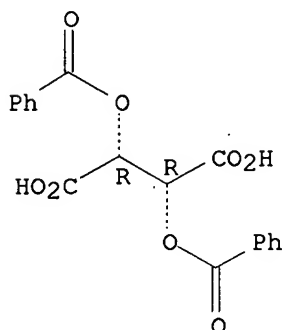


CM 2

CRN 2743-38-6

CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).



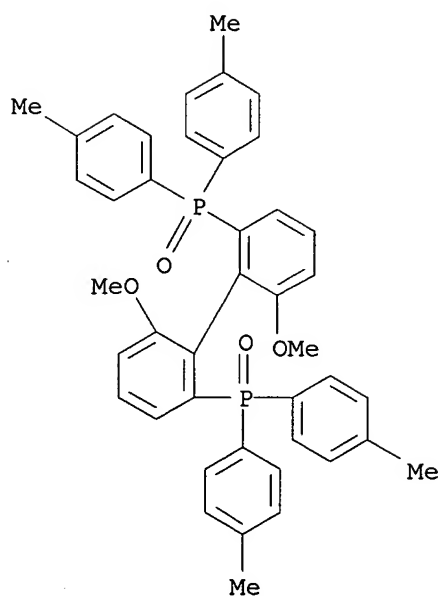
RN 133644-95-8 CAPLUS

CN Butanedioic acid, 2,3-bis[(4-methylbenzoyl)oxy]-, [R-(R*,R*)]-, compd.
with (R)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-
methylphenyl)phosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-88-5

CMF C42 H40 O4 P2

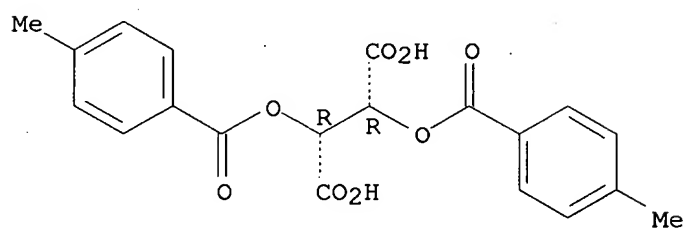


CM 2

CRN 32634-66-5

CMF C20 H18 O8

Absolute stereochemistry. Rotation (-).



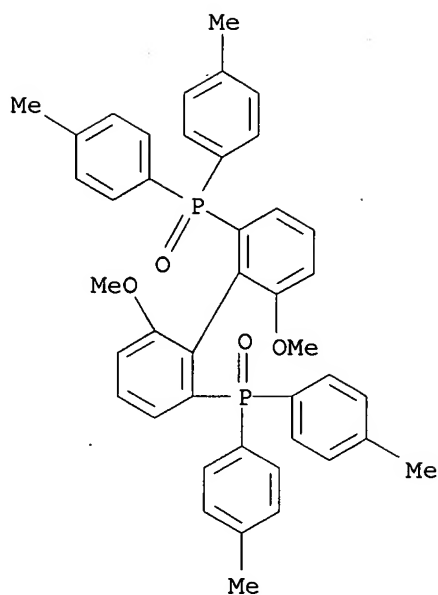
RN 133644-96-9 CAPLUS

CN Butanedioic acid, 2,3-bis[(4-methylbenzoyl)oxy]-, [R-(R*,R*)]-, compd. with (S)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)phosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-89-6

CMF C42 H40 O4 P2

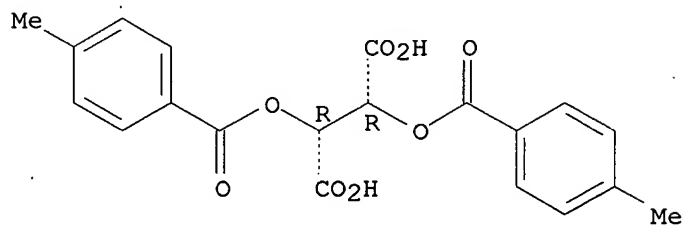


CM 2

CRN 32634-66-5

CMF C20 H18 O8

Absolute stereochemistry. Rotation (-).

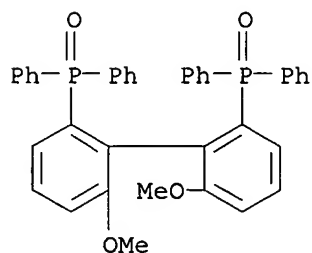


IT 133545-15-0P 133545-18-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and reduction and resolution of)

RN 133545-15-0 CAPLUS

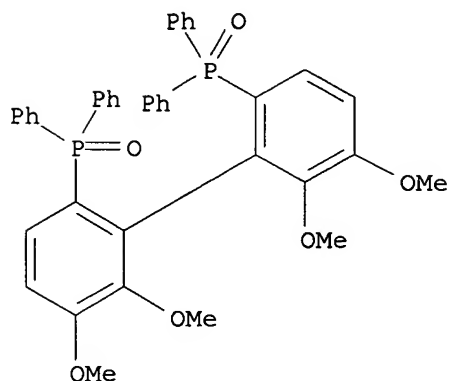
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-
(9CI) (CA INDEX NAME)



RN 133545-18-3 CAPLUS

CN Phosphine oxide, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-

diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



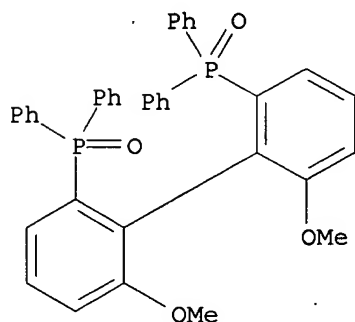
IT 133577-82-9P 133577-86-3P 133577-87-4P

133577-88-5P 133577-89-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reduction of)

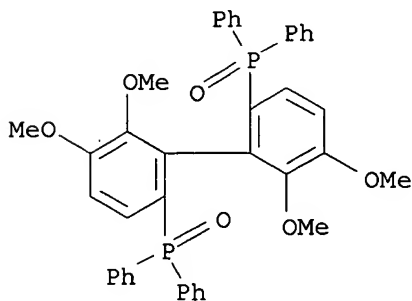
RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)



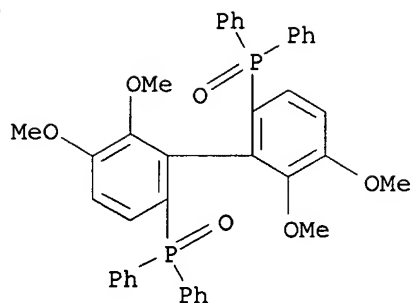
RN 133577-86-3 CAPLUS

CN Phosphine oxide, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



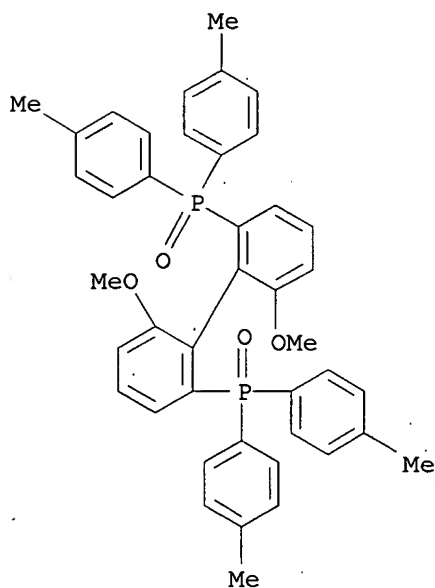
RN 133577-87-4 CAPLUS

CN Phosphine oxide, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



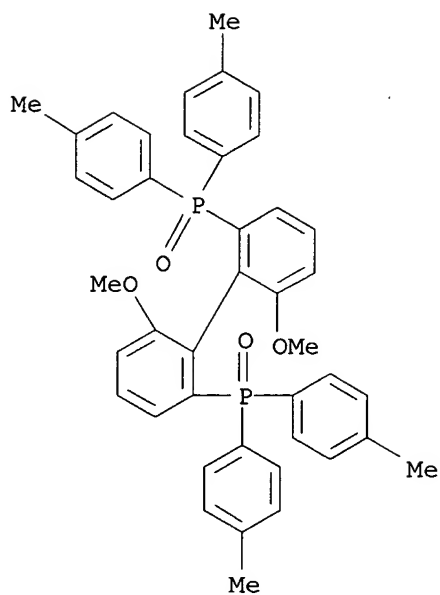
RN 133577-88-5 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)



RN 133577-89-6 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



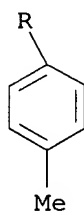
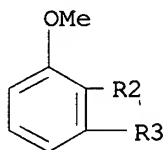
IT 133545-23-0P

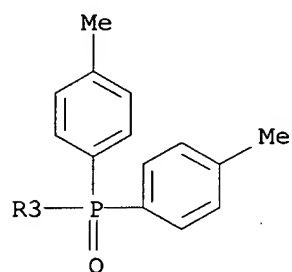
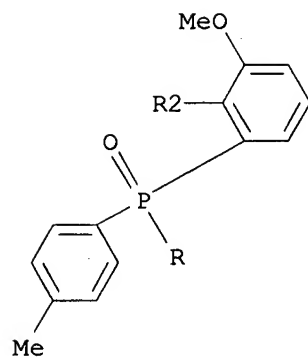
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and resolution of)

RN 133545-23-0 CAPLUS

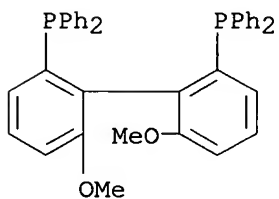
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

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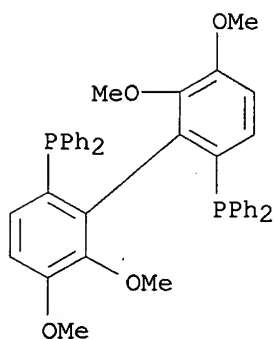




IT 133577-92-1P 133577-93-2P 133577-94-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 133577-92-1 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)
 (CA INDEX NAME)

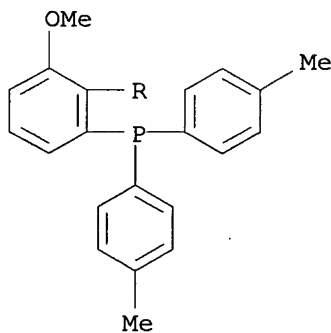


RN 133577-93-2 CAPLUS
 CN Phosphine, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-
 (9CI) (CA INDEX NAME)

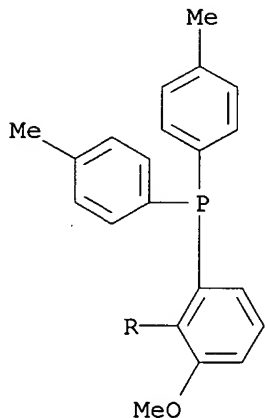


RN 133577-94-3 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

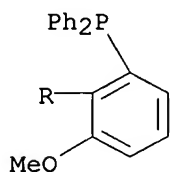
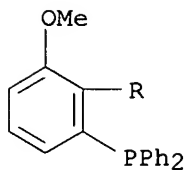
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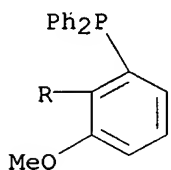
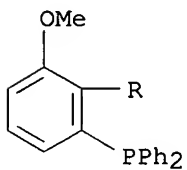


IT 133545-16-1P 133545-17-2P 133545-19-4P
 133545-20-7P 133545-24-1P 133545-25-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, for use in asym. reaction catalysts)
 RN 133545-16-1 CAPLUS
 CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl]- (CA INDEX NAME)



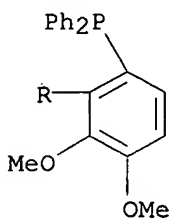
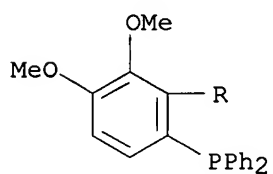
RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

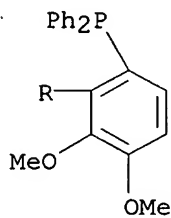
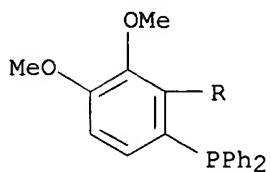


RN 133545-19-4 CAPLUS

CN Phosphine, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

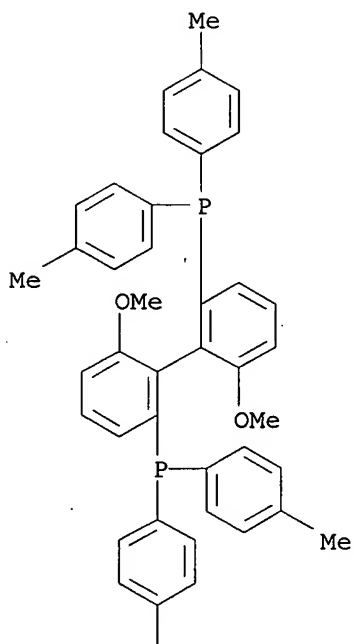


RN 133545-20-7 CAPLUS
 CN Phosphine, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



RN 133545-24-1 CAPLUS
 CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)

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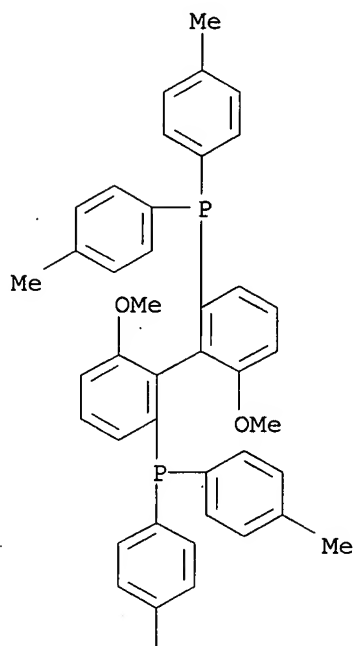


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RN 133545-25-2 CAPLUS
 CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]

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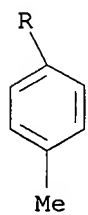
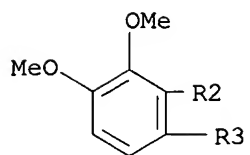


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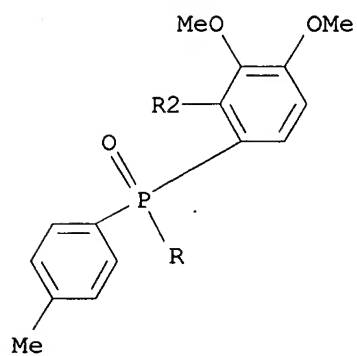


IT 133545-31-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reduction of)
 RN 133545-31-0 CAPLUS
 CN Phosphine oxide, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]

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